

Power Semiconductors



1986

GENERAL
INSTRUMENT

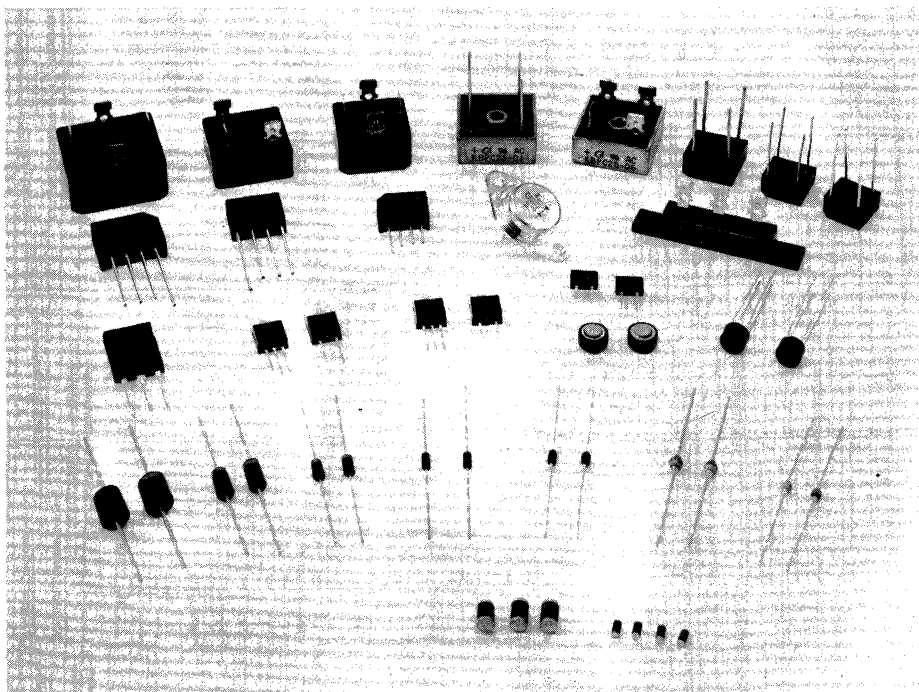
Introduction

General Instrument Corporation is a major multinational company manufacturing a wide range of products from data systems, broadband communications, and components to semiconductor products. The corporation, which has been in existence over 50 years, has manufacturing and sales locations throughout the world serving all major electronic markets.

The discrete semiconductor division has manufacturing facilities in the United States and the Far East and is one of the leading producers of discrete semiconductor devices. These devices include low and medium power rectifiers from standard thru ultrafast recovery, bridge assemblies, transient voltage suppressors, and power mosfets. We offer the widest selection of rectifier package types and junction structures including plastic encapsulated, glass passivated, superrectifier, and super surface mounted. Advanced junction technologies include double diffusion, double diffused fast recovery, narrow base epitaxial, Schottky, and YMOS.

Particular emphasis has been focused on the superrectifier product family including our new super surface mounted devices. The superrectifier, when introduced ten years ago, increased rectifier reliability by several orders of magnitude. Today it still remains unmatched as the cost performance leader in axial leaded rectifiers. Now the superrectifier features of metallurgically bonded junction, glass passivation, and flame retardent encapsulation are available in our line of super surface mounted rectifiers. For the ultimate in surface mounted rectifier reliability it's super surface mount.

The information contained in this data book is intended to provide the necessary technical and support data to assist the design engineer. It is our policy to maintain high standards of product manufacturer. The General Instrument logo (GI), printed on every component, ensures that it reaches the highest level of quality and reliability. In the complex and competitive semiconductor industry, high standards of quality using the latest methods of statistical quality control are of the utmost importance since they constitute, for our customer, the assurance of reliable product performance.



Not every application problem can be solved using a standard device, in this case we often develop special products to meet the customer requirements. If in doubt, call your local Sales Office or our Application Engineering Laboratory for further information.

SYMBOLS

BV_{DSS}	Drain-Source Breakdown Voltage	$R_{\theta jc}$	Thermal Resistance Junction-to-case
C_{iss}	Input Capacitance	$R_{TH(J-A)}$	Thermal Resistance (Junction to Ambient)
C_{oss}	Output Capacitance	$R_{TH(J-C)}$	Thermal Resistance (Junction to Case)
C_{rss}	Reverse Transfer Capacitance	T_A	Ambient Temperature
g_{fs}	Forward Transconductance	T_C	Case Temperature
I_D	Continuous Drain Current	$t_{d(off)}$	Turn-off Delay Time
I_{DM}	Pulsed Drain Current	$t_{d(on)}$	Turn-on Delay Time
$I_{D(on)}$	On-State Drain Current	t_f	Fall Time
I_{DR}	Continuous Reverse Drain Current	T_L	Maximum Lead Temperature
I_{DRM}	Pulsed Reverse Drain Current	t_r	Rise Time
I_{DSS}	Zero Gate Voltage Drain Current	t_{rr}	Reverse Recovery Time
I_F	Forward Current	V_{BR}	Breakdown Voltage
$I_{F(AV)}$	Average Forward Rectified Current	V_{DGR}	Drain-Source Voltage ($R_{GS} = 1K \text{ OHM}$)
I_{FSM}	Peak Forward Surge Current	V_{DS}	Drain-Source Voltage
I_{GSS}	Gate-Source Leakage Current	V_F	Forward Voltage
I_{LM}	Clamped Inductive Current	V_{FR}	Forward Recovery Voltage
I_O	Mean Forward Current	V_{GS}	Gate-Source Voltage
I_R	Reverse Current	$V_{GS(th)}$	Gate Threshold Voltage
I_{rr}	Reverse Recovery Current	V_R	Reverse Voltage
I_{RSM}	Maximum Non-Repetitive Peak Current	V_{RMS}	RMS Input Voltage
I_T	On-State Test Current	V_{RRM}	Repetitive Peak Reverse Voltage
I^2t	I^2t Rating for Fusing	V_{RSM}	Maximum Reverse Voltage (Clamping Voltage) at I_{RSM}
P_D	Steady State Power Dissipation	V_{RWM}	Working Peak Reverse Voltage (Stand-Off Voltage)
P_{PK}	Peak Power Dissipation	V_{SD}	Forward Diode Voltage
Q_{GS}	Gate Charge (To $10V \text{ } V_{GS}$)	V_Z	Zener Voltage
$R_{DS(on)}$	Static Drain-Source On-Resistance	Z_K	Dynamic Impedance

DRAWINGS

All dimensions in inches and (mm).
Figures not to scale.

TEMPERATURES

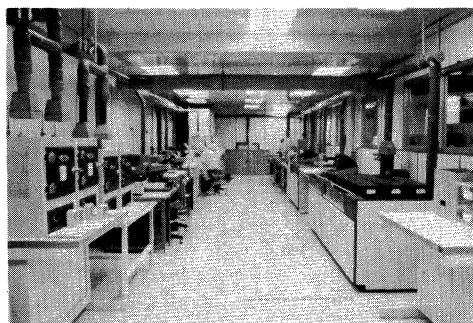
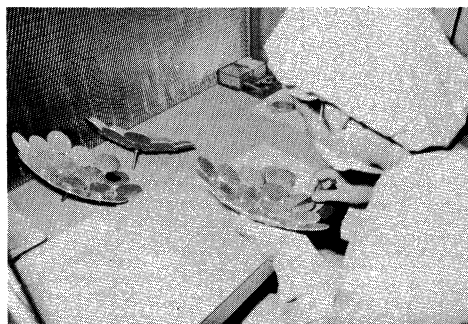
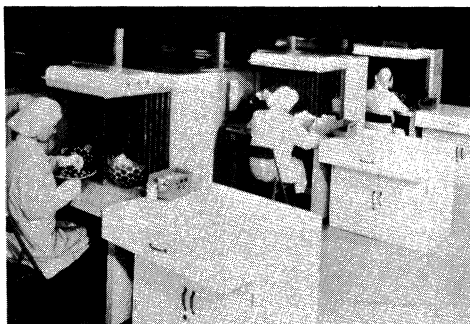
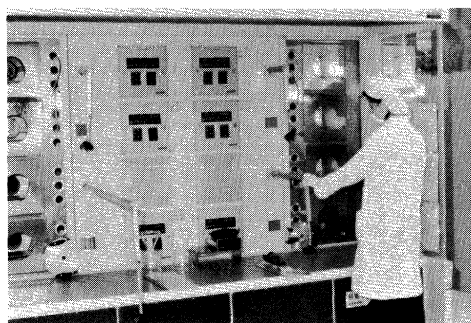
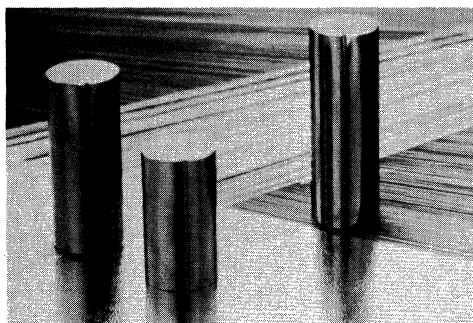
Ratings at 25°C ambient temperature unless otherwise specified.

This General Instrument data books is not a document for official acceptance tests.
Relevant is only the detailed data sheet, which is available on request.
The Manufacturer reserves the right to change the contained data at any time in order to improve performance and supply the best product possible.

Power Semiconductor Division

DATA BOOK 1986/87

	Page
General Information	1
Introduction	1
Symbols	2
Contents	3
Numerical Index	4
Quality Assurance	14
Introduction	14
Test Conditions	15
High Reliability-Test capabilities	16
List of approved JAN-JANTX devices	17
Case Drawings	20
Schottky Rectifiers	21
Quick Guide	23
Axial Plastic Schottky Rectifiers 1 to 5 AMP	25
High Current Schottky Rectifiers 5 to 40 AMP	41
Plastic Schottky Rectifier Bridges 1 AMP	69
Fast Efficient Rectifiers	73
Quick Guide	75
Glass passivated Fast Efficient Rectifiers 1 to 6 AMP	77
Fast Efficient Superectifier 1 to 5 AMP	99
Plastic Fast Efficient Rectifiers 1 to 3 AMP	109
High Current Fast Efficient Rectifiers 8 to 30 AMP	115
Fast Efficient Rectifier Bridges 1 AMP	141
Superectifiers	145
Introduction	145
Quick Guide	150
Superectifiers 0.25 to 3 AMP	152
Zener Regulator Diode 1.5 WATT	182
Fast Recovery Superectifiers 0.1 to 3 AMP	185
Glass Rectifiers	211
Introduction	212
Quick Guide	215
Glass passivated Rectifiers 0.4 to 3 AMP	216
Fast Recovery Glass passivated Rectifiers 1 to 3 AMP	241
Plastic Rectifiers	257
Introduction	258
Quick Guide	261
Plastic Rectifiers 1.0 to 6 AMP	262
Plastic Rectifiers 8 to 30 AMP	279
Fast Recovery Plastic Rectifiers 1 to 6 AMP	289
Fast Recovery Plastic Rectifiers 8 to 30 AMP	305
Bridge Rectifiers	313
Introduction	314
Quick Guide	316
Bridge Rectifiers 1.0 to 35 AMP	318
Fast Recovery Bridge Rectifiers 1.0 to 35 AMP	363
Surface Mounted Rectifiers	381
Introduction	382
Quick Guide	385
MELF Rectifiers	386
Silicon Chips	400
Transient Voltage Suppressors	409
600 WATT-5000 WATT	410
Power Mosfets	423
Introduction	425
40 WATT-125 WATT	426
Packaging	445
Bulk	447
Tape and Reel	448
Sales Offices and Distributors	451



1N645	216	1N4946GP	190	1N5554	230
1N646	216	1N4947	242	1N5614	222
1N647	216	1N4948	242	1N5614GP	166
1N648	216	1N4948GP	189	1N5615	244
1N649	216	1N5059	220	1N5615GP	194
1N2947GP	154	1N5059GP	164	1N5616	222
1N3611GP	154	1N5060	220	1N5616GP	166
1N3612GP	154	1N5060GP	164	1N5617	244
1N3613GP	154	1N5061	220	1N5617GP	194
1N3614GP	154	1N5061GP	164	1N5618	222
1N3957GP	154	1N5062	220	1N5618GP	166
1N4001	262	1N5062GP	164	1N5619	244
1N4001GP	156	1N5185GP	206	1N5619GP	194
1N4002	262	1N5186GP	206	1N5620	222
1N4002GP	156	1N5187GP	206	1N5620GP	166
1N4003	262	1N5188GP	206	1N5621	244
1N4003GP	156	1N5189GP	206	1N5621GP	194
1N4004	262	1N5190GP	206	1N5622	222
1N4004GP	156	1N5391	266	1N5622GP	166
1N4005	262	1N5391GP	168	1N5623	244
1N4005GP	156	1N5392	266	1N5623GP	194
1N4006	262	1N5392GP	168	1N5624	232
1N4006GP	156	1N5393	266	1N5624GP	176
1N4007	262	1N5393GP	168	1N5625	232
1N4007GP	156	1N5394	266	1N5625GP	176
1N4245	218	1N5394GP	168	1N5626	232
1N4245GP	158	1N5395	266	1N5626GP	176
1N4246	218	1N5395GP	168	1N5627	232
1N4246GP	158	1N5396	266	1N5627GP	176
1N4247	218	1N5396GP	168	1N5817	30
1N4247GP	158	1N5397	266	1N5818	30
1N4248	218	1N5397GP	168	1N5819	30
1N4248GP	158	1N5398	266	1N5820	32
1N4249	218	1N5398GP	168	1N5821	32
1N4249GP	158	1N5399	266	1N5822	32
1N4383GP	162	1N5399GP	168	1N6478	386
1N4384GP	162	1N5400	268	1N6479	386
1N4385GP	162	1N5401	268	1N6480	386
1N4585GP	162	1N5402	268	1N6481	386
1N4586GP	162	1N5403	268	1N6482	386
1N4933	290	1N5404	268	1N6483	386
1N4933GP	188	1N5405	268	1N6484	386
1N4934	290	1N5406	268	1.5KE6.8	414
1N4934GP	188	1N5407	268	1.5KE6.8A	414
1N4935	290	1N5408	268	1.5KE7.5	414
1N4935GP	188	1N5415	250	1.5KE7.5A	414
1N4936	290	1N5416	250	1.5KE8.2	414
1N4936GP	188	1N5417	250	1.5KE8.2A	414
1N4937	290	1N5418	250	1.5KE9.1	414
1N4937GP	188	1N5419	250	1.5KE9.1A	414
1N4942	242	1N5420	250	1.5KE10	414
1N4942GP	190	1N5550	230	1.5KE10A	414
1N4944	242	1N5551	230	1.5KE11	414
1N4944GP	190	1N5552	230	1.5KE11A	414
1N4946	242	1N5553	230	1.5KE12	414

1.5KE12A	414	1.5KE170	414	5KP8.0A	418
1.5KE13	414	1.5KE170A	414	5KP8.5	418
1.5KE13A	414	1.5KE180	414	5KP8.5A	418
1.5KE15	414	1.5KE180A	414	5KP9.0	418
1.5KE15A	414	1.5KE200	414	5KP9.0A	418
1.5KE16	414	1.5KE200A	414	5KP10	418
1.5KE16A	414	1.5KE220	414	5KP10A	418
1.5KE18	414	1.5KE220A	414	5KP11	418
1.5KE18A	414	1.5KE250	414	5KP11A	418
1.5KE20	414	1.5KE250A	414	5KP12	418
1.5KE20A	414	1.5KE300	414	5KP12A	418
1.5KE22	414	1.5KE300A	414	5KP13	418
1.5KE22A	414	1.5KE350	414	5KP13A	418
1.5KE24	414	1.5KE350A	414	5KP14	418
1.5KE24A	414	1.5KE400	414	5KP14A	418
1.5KE27	414	1.5KE400A	414	5KP15	418
1.5KE27A	414	2KBP005	330	5KP15A	418
1.5KE30	414	2KBP01	330	5KP16	418
1.5KE30A	414	2KBP02	330	5KP16A	418
1.5KE33	414	2KBP04	330	5KP17	418
1.5KE33A	414	2KBP06	330	5KP17A	418
1.5KE36	414	2KBP08	330	5KP18	418
1.5KE36A	414	2KBP10	330	5KP18A	418
1.5KE39	414	2W005M	328	5KP20	418
1.5KE39A	414	2W01M	328	5KP20A	418
1.5KE43	414	2W02M	328	5KP22	418
1.5KE43A	414	2W04M	328	5KP22A	418
1.5KE47	414	2W06M	328	5KP24	418
1.5KE47A	414	2W08M	328	5KP24A	418
1.5KE51	414	2W10M	328	5KP26	418
1.5KE51A	414	3N246	326	5KP26A	418
1.5KE56	414	3N247	326	5KP28	418
1.5KE56A	414	3N248	326	5KP28A	418
1.5KE62	414	3N249	326	5KP30	418
1.5KE62A	414	3N250	326	5KP30A	418
1.5KE68	414	3N251	326	5KP33	418
1.5KE68A	414	3N252	326	5KP33A	418
1.5KE75	414	3N253	332	5KP36	418
1.5KE75A	414	3N254	332	5KP36A	418
1.5KE82	414	3N255	332	5KP40	418
1.5KE82A	414	3N256	332	5KP40A	418
1.5KE91	414	3N257	332	5KP43	418
1.5KE91A	414	3N258	332	5KP43A	418
1.5KE100	414	3N259	332	5KP45	418
1.5KE100A	414	5KP5.0	418	5KP45A	418
1.5KE110	414	5KP5.0A	418	5KP48	418
1.5KE110A	414	5KP6.0	418	5KP48A	418
1.5KE120	414	5KP6.0A	418	5KP51	418
1.5KE120A	414	5KP6.5	418	5KP51A	418
1.5KE130	414	5KP6.5A	418	5KP54	418
1.5KE130A	414	5KP7.0	418	5KP54A	418
1.5KE150	414	5KP7.0A	418	5KP58	418
1.5KE150A	414	5KP7.5	418	5KP58A	418
1.5KE160	414	5KP7.5A	418	5KP60	418
1.5KE160A	414	5KP8.0	418	5KP60A	418

5KP64	418	DF01M	318	EGP30D	104
5KP64A	418	DF02M	318	EGP30F	104
5KP70	418	DF04M	318	EGP30G	104
5KP70A	418	DF06M	318	EGP50A	106
5KP75	418	DF08M	318	EGP50B	106
5KP75A	418	DF10M	318	EGP50C	106
5KP78	418	DG1	226	EGP50D	106
5KP78A	418	DG3	238	EGP50F	106
5KP85	418	EDF1AM	142	EGP50G	106
5KP85A	418	EDF1BM	142	FE1A	78
5KP90	418	EDF1CM	142	FE1B	78
5KP90A	418	EDF1DM	142	FE1C	78
5KP100	418	EFR1A	404	FE1D	78
5KP100A	418	EFR1B	404	FE2A	82
5KP110	418	EFR1C	404	FE2B	82
5KP110A	418	EFR1D	404	FE2C	82
15IP-005	360	EFR3A	404	FE2D	82
15IP-02	360	EFR3B	404	FE3A	88
15IP-04	360	EFR3C	404	FE3B	88
15IP-06	360	EFR3D	404	FE3C	88
15IP-08	360	EFR5A	404	FE3D	88
15IP-10	360	EFR5B	404	FE5A	90
AGP15-200	172	EFR5C	404	FE5B	90
AGP15-400	172	EFR5D	404	FE5C	90
AGP15-600	172	EFR8A	404	FE5D	90
AGP15-800	172	EFR8B	404	FE6A	94
AKBPC102	336	EFR8C	404	FE6B	94
AKBPC104	336	EFR8D	404	FE6C	94
AKBPC106	336	EGL27A	397	FE6D	94
AKBPC108	336	EGL27B	397	FEP16AT	126
AKBPC602	346	EGL27C	397	FEP16BT	126
AKBPC604	346	EGL27D	397	FEP16CT	126
AKBPC606	346	EGL27F	397	FEP16DT	126
AKBPC608	346	EGL27G	397	FEP16FT	126
AR25A	284	EGL41A	396	FEP16GT	126
AR25B	284	EGL41B	396	FEP16HT	126
AR25D	284	EGL41C	396	FEP16JT	126
AR25G	284	EGL41D	396	FEP30AM	130
AR25J	284	EGL41F	396	FEP30AP	128
AR25K	284	EGL41G	396	FEP30BM	130
AR25M	284	EGP10A	100	FEP30BP	128
ARS25A	284	EGP10B	100	FEP30CM	130
ARS25B	284	EGP10C	100	FEP30CP	128
ARS25D	284	EGP10D	100	FEP30DM	130
ARS25G	284	EGP10F	100	FEP30DP	128
ARS25J	284	EGP10G	100	FEP30FM	130
ARS25K	284	EGP20A	102	FEP30FP	128
ARS25M	284	EGP20B	102	FEP30GM	130
AW02M	322	EGP20C	102	FEP30GP	128
AW04M	322	EGP20D	102	FEP30HM	130
AW06M	322	EGP20F	102	FEP30HP	128
AW08M	322	EGP20G	102	FEP30JM	130
CG1	226	EGP30A	104	FEP30JP	128
CG3	238	EGP30B	104	FES16AT	122
DF005M	318	EGP30C	104	FES16BT	122

FES16CT	122	GI1402	118	GIB2506	356
FES16DT	122	GI1403	118	GIB2508	356
FES16FT	122	GI1404	118	GIB2510	356
FES16GT	122	GI2401	136	GIB3500	358
FES16HT	122	GI2402	136	GIB3501	358
FES16JT	122	GI2403	136	GIB3502	358
FES8AT	116	GI2601	132	GIB3504	358
FES8BT	116	GI2602	132	GIB3506	358
FES8CT	116	GI2603	132	GIB3508	358
FES8DT	116	GI2604	138	GIB3510	358
FES8FT	116	GI2605	138	GL27A	392
FES8GT	116	GI2606	138	GL27B	392
FES8HT	116	GI500	270	GL27D	392
FES8JT	116	GI501	270	GL27G	392
G1A	224	GI502	270	GL27J	392
G1B	224	GI503	270	GL27K	392
G1D	224	GI506	270	GL27M	392
G1G	224	GI508	270	GL41A	388
G1J	224	GI5823	38	GL41B	388
G1K	224	GI5824	38	GL41D	388
G1M	224	GI5825	38	GL41G	388
G2A	228	GI750	274	GL41J	388
G2B	228	GI751	274	GL41K	388
G2D	228	GI752	274	GL41M	388
G2G	228	GI754	274	GP02-20	152
G2J	228	GI756	274	GP02-25	152
G2K	228	GI758	274	GP02-30	152
G2M	228	GI810	196	GP02-35	152
G3A	234	GI811	196	GP02-40	152
G3B	234	GI812	196	GP10A	160
G3D	234	GI814	196	GP10B	160
G3G	234	GI816	196	GP10D	160
G3J	234	GI817	196	GP10G	160
G3K	234	GI818	196	GP10J	160
G3M	234	GI820	300	GP10K	160
G4A	236	GI821	300	GP10M	160
G4B	236	GI822	300	GP10N	160
G4D	236	GI824	300	GP10Q	160
G4G	236	GI826	300	GP10T	160
G4J	236	GI850	296	GP10V	160
G4K	236	GI851	296	GP10W	160
G4M	236	GI852	296	GP10Y	160
GI1001	80	GI854	296	GP15A	170
GI1002	80	GI856	296	GP15B	170
GI1003	80	GI910	294	GP15D	170
GI1004	80	GI911	294	GP15G	170
GI1101	84	GI912	294	GP15J	170
GI1102	84	GI914	294	GP15K	170
GI1103	84	GI916	294	GP15M	170
GI1104	84	GI917	294	GP20A	174
GI1301	96	GI918	294	GP20B	174
GI1302	96	GIB2500	356	GP20D	174
GI1303	96	GIB2501	356	GP20G	174
GI1304	96	GIB2502	356	GP20J	174
GI1401	118	GIB2504	356	GP20K	174

GP20M	174	KBC12-10	352	KBU8K	350
GP30A	178	KBPC15-005	352	KBU8M	350
GP30B	178	KBPC15-01	352	M100B	264
GP30D	178	KBPC15-02	352	M100B	264
GP30G	178	KBPC15-04	352	M100D	264
GP30J	178	KBPC15-06	352	M100G	264
GP30K	178	KBPC15-08	352	M100J	264
GP30M	178	KBPC15-10	352	M100K	264
GPP1A	400	KBPC25-005	352	M100M	264
GPP1B	400	KBPC25-01	352	NP16AT	282
GPP1D	400	KBPC25-02	352	NP16BT	282
GPP1G	400	KBPC25-04	352	NP16DT	282
GPP1J	400	KBPC25-06	352	NP16GT	282
GPP1K	400	KBPC25-08	352	NP16JT	282
GPP1M	400	KBPC25-10	352	NP16KT	282
GPP5A	400	KBPC35-005	352	NP16MT	282
GPP5B	400	KBPC35-01	352	NP30AM	286
GPP5D	400	KBPC35-02	352	NP30BM	286
GPP5G	400	KBPC35-04	352	NP30DM	286
GPP5J	400	KBPC35-06	352	NP30GM	286
GPP5K	400	KBPC35-08	352	NP30JM	286
KBL005	338	KBPC35-10	352	NP30KM	286
KBL01	338	KBPC6005	344	NP30MM	286
KBL02	338	KBPC601	344	NS8AT	280
KBL04	338	KBPC602	344	NS8BT	280
KBL06	338	KBPC604	344	NS8DT	280
KBL08	338	KBPC606	344	NS8GT	280
KBL10	338	KBPC608	344	NS8JT	280
KBP005	324	KBPC610	344	NS8KT	280
KBP01	324	KBPC8005	348	NS8MT	280
KBP02	324	KBPC801	348	P300A	272
KBP04	324	KBPC802	348	P300B	272
KBP06	324	KBPC804	348	P300D	272
KBP08	324	KBPC806	348	P300G	272
KBP10	324	KBPC808	348	P300J	272
KBPC10-005	352	KBPC810	348	P300K	272
KBPC10-01	352	KBU4A	340	P300M	272
KBPC10-02	352	KBU4B	340	P600A	276
KBPC10-04	352	KBU4D	340	P600B	276
KBPC10-06	352	KBU4G	340	P600D	276
KBPC10-08	352	KBU4J	340	P600G	276
KBPC10-10	352	KBU4K	340	P600J	276
KBPC1005	334	KBU4M	340	P600K	276
KBPC101	334	KBU6A	342	P600M	276
KBPC102	334	KBU6B	342	P6KE6.8	410
KBPC104	334	KBU6D	342	P6KE6.8A	410
KBPC106	334	KBU6G	342	P6KE7.5	410
KBPC108	334	KBU6J	342	P6KE7.5A	410
KBPC110	334	KBU6K	342	P6KE8.2	410
KBPC12-005	352	KBU6M	342	P6KE8.2A	410
KBPC12-01	352	KBU8A	350	P6KE9.1	410
KBPC12-02	352	KBU8B	350	P6KE9.1A	410
KBPC12-04	352	KBU8D	350	P6KE10	410
KBPC12-06	352	KBU8G	350	P6KE10A	410
KBPC12-08	352	KBU8J	350	P6KE11	410

P6KE11A	410	P6KE160	416	PA75N150LM	432
P6KE12	410	P6KE160A	416	PA75N150LP	432
P6KE12A	410	P6KE170	416	PA75N150LT	432
P6KE13	410	P6KE170A	416	PA75N150SM	432
P6KE13A	410	P6KE180	416	PA75N150SP	432
P6KE15	410	P6KE180A	416	PA75N150ST	432
P6KE15A	410	P6KE200	416	PA75N85HM	432
P6KE16	410	P6KE200A	416	PA75N85HP	432
P6KE16A	410	PA125N40HM	438	PA75N85HT	432
P6KE18	410	PA125N40HP	438	PA75N85LM	432
P6KE18A	410	PA125N40HT	438	PA75N85LP	432
P6KE20	410	PA125N40LP	438	PA75N85LT	432
P6KE20A	410	PA125N40LT	438	PA75N85SM	432
P6KE22	410	PA125N40SM	438	PA75N85SP	432
P6KE22A	410	PA125N40SP	438	PA75N85ST	432
P6KE24	410	PA125N40ST	438	PB125N60HM	438
P6KE24A	410	PA125N60HM	438	PB125N60HP	438
P6KE27	410	PA125N60HP	438	PB125N60HT	438
P6KE27A	410	PA125N60HT	438	PB125N60LM	438
P6KE30	410	PA125N60LM	438	PB125N60LP	438
P6KE30A	410	PA125N60LP	438	PB125N60LT	438
P6KE33	410	PA125N60LT	438	PB125N60SM	438
P6KE33A	410	PA125N60SM	438	PB125N60SP	438
P6KE36	410	PA125N60SP	438	PB125N60ST	438
P6KE36A	410	PA125N60ST	438	PB125N80HM	438
P6KE39	410	PA40N200HM	426	PB125N80HP	438
P6KE39A	410	PA40N200HP	426	PB125N80HT	438
P6KE43	410	PA40N200HT	426	PB125N80LM	438
P6KE43A	410	PA40N200LM	426	PB125N80LP	438
P6KE47	410	PA40N200LP	426	PB125N80LT	438
P6KE47A	410	PA40N200LT	426	PB125N80SM	438
P6KE51	410	PA40N200SM	426	PB125N80SP	438
P6KE51A	410	PA40N200SP	426	PB125N80ST	438
P6KE56	410	PA40N200ST	426	PB40N280HM	426
P6KE56A	410	PA40N300HM	426	PB40N280HP	426
P6KE62	410	PA40N300HP	426	PB40N280HT	426
P6KE62A	410	PA40N300HT	426	PB40N280LM	426
P6KE68	410	PA40N300LM	426	PB40N280LP	426
P6KE68A	410	PA40N300LP	426	PB40N280LT	426
P6KE75	410	PA40N300LT	426	PB40N280SM	426
P6KE75A	410	PA40N300SM	426	PB40N280SP	426
P6KE82	410	PA40N300SP	426	PB40N280ST	426
P6KE82A	410	PA40N300ST	426	PB40N400HM	426
P6KE91	410	PA75N120HM	432	PB40N400HP	426
P6KE91A	410	PA75N120HP	432	PB40N400HT	426
P6KE100	410	PA75N120HT	432	PB40N400LM	426
P6KE100A	410	PA75N120LM	432	PB40N400LP	426
P6KE110	410	PA75N120LP	432	PB40N400LT	426
P6KE110A	410	PA75N120LT	432	PB40N400SM	426
P6KE120	410	PA75N120SM	432	PB40N400SP	426
P6KE120A	410	PA75N120SP	432	PB40N400ST	426
P6KE130	410	PA75N120ST	432	PB75N140HM	432
P6KE130A	410	PA75N150HM	432	PB75N140HP	432
P6KE150	410	PA75N150HP	432	PB75N140HT	432
P6KE150A	410	PA75N150HT	432	PB75N140LM	432

PB75N140LP	432	PC75N250LP	432	RGL27D	394
PB75N140LT	432	PC75N250LT	432	RGL27G	394
PB75N140SM	432	PC75N250SM	432	RGL27J	394
PB75N140SP	432	PC75N250SP	432	RGL27K	394
PB75N140ST	432	PC75N250ST	432	RGL27M	394
PB75N180HM	432	PC75N400HM	432	RGL41A	390
PB75N180HP	432	PC75N400HP	432	RGL41B	390
PB75N180HT	432	PC75N400HT	432	RGL41D	390
PB75N180LM	432	PC75N400LM	432	RGL41G	390
PB75N180LP	432	PC75N400LP	432	RGL41J	390
PB75N180LT	432	PC75N400LT	432	RGL41K	390
PB75N180SM	432	PC75N400SM	432	RGL41M	390
PB75N180SP	432	PC75N400Sp	432	RGPO1-10	186
PB75N180ST	432	PC75N400ST	432	RGPO1-12	186
PC125N130HM	438	RDF005M	364	RGPO1-14	186
PC125N130HP	438	RDF01M	364	RGPO1-16	186
PC125N130HT	438	RDF02M	364	RGPO1-18	186
PC125N130LM	438	RDF04M	364	RGPO1-20	186
PC125N130LP	438	RDF06M	364	RGPI0A	192
PC125N130LT	438	RDF08M	364	RGPI0B	192
PC125N130SM	438	RG1A	246	RGPI0D	192
PC125N130SP	438	RG1B	246	RGPI0G	192
PC125N130ST	438	RG1D	246	RGPI0J	192
PC125N180HM	438	RG1G	246	RGPI0K	192
PC125N180HP	438	RG1J	246	RGPI0M	192
PC125N180HT	438	RG1K	246	RGPI5-10	198
PC125N180LM	438	RG1M	246	RGPI5-12	198
PC125N180LP	438	RG2A	248	RGPI5-14	198
PC125N180LT	438	RG2B	248	RGPI5-15	198
PC125N180SM	438	RG2D	248	RGPI5-16	198
PC125N180SP	438	RG2G	248	RGPI5-18	198
PC125N180ST	438	RG2J	248	RGPI5-20	198
PC125N40LM	438	RG2K	248	RGPI5A	200
PC40N500HM	426	RG2M	248	RGPI5B	200
PC40N500HP	426	RG3A	252	RGPI5D	200
PC40N500HT	426	RG3B	252	RGPI5G	200
PC40N500LM	426	RG3D	252	RGPI5J	200
PC40N500LP	426	RG3G	252	RGPI5K	200
PC40N500LT	426	RG3J	252	RGPI5M	200
PC40N500SM	426	RG3K	252	RGPI5P	202
PC40N500SP	426	RG3M	252	RGPI5Q	202
PC40N500ST	426	RG4A	254	RGPI5R	202
PC40N800HM	426	RG4B	254	RGPI5S	202
PC40N800HP	426	RG4D	254	RGPI5T	202
PC40N800HT	426	RG4G	254	RGPI5U	202
PC40N800LM	426	RG4J	254	RGPI5V	202
PC40N800LP	426	RG4K	254	RGPI5W	204
PC40N800LT	426	RG4M	254	RGPI5X	204
PC40N800SM	426	RGIB3500	378	RGPI5Y	204
PC40N800SP	426	RGIB3501	378	RGPI5Z	204
PC40N800ST	426	RGIB3502	378	RGPI5AA	204
PC75N250HM	432	RGIB3504	378	RGPI5AB	204
PC75N250HP	432	RGIB3506	378	RGPI5AC	204
PC75N250HT	432	RGL27A	394	RGPI5AD	208
PC75N250LM	432	RGL27B	394	RGPI5AE	208

RGP30D	208	RP16JT	308	SBP3020P	62
RGP30G	208	RP16KT	308	SBP3030M	64
RGP30J	208	RP30AM	310	SBP3030P	62
RGP30K	208	RP30BM	310	SBP3035M	64
RGP30M	208	RP30DM	310	SBP3035P	62
RGPP1A	402	RP30GM	310	SBP3040M	64
RGPP1B	402	RP30JM	310	SBP3040P	62
RGPP1D	402	RP30KM	310	SBP3045M	64
RGPP1G	402	RP30MM	310	SBP3045P	62
RGPP1J	402	RS8AT	306	SBP3050M	64
RGPP1K	402	RS8BT	306	SBP3050P	62
RGPP5A	402	RS8DT	306	SBP3060M	64
RGPP5B	402	RS8GT	306	SBP3060P	62
RGPP5D	402	RS8JT	306	SBP4020P	66
RGPP5G	402	RS8KT	306	SBP4030P	66
RGPP5J	402	RS8MT	306	SBP4035P	66
RGPP5K	402	RW005M	366	SBP4040P	66
RKBP005	368	RW01M	366	SBP4045P	66
RKBP01	368	RW02M	366	SBP4050P	66
RKBP02	368	RW04M	366	SBP4050P	66
RKBP04	368	RW06M	366	SBS1020T	46
RKBP06	368	RW08M	366	SBS1030T	46
RKBP08	368	RW10M	366	SBS1035T	46
RKBP10	368	SB120	26	SBS1040T	46
RKBPC1005	370	SB130	26	SBS1045T	46
RKBPC102	370	SB140	26	SBS1620T	48
RKBPC104	370	SB150	26	SBS1635T	48
RKBPC106	370	SB160	26	SBS1640T	48
RKBPC108	370	SB170	28	SBS1645T	48
RKBPC110	370	SB180	28	SBS520T	42
RKBPC6005	374	SB320	34	SBS530T	42
RKBPC601	374	SB330	34	SBS535T	42
RKBPC602	374	SB340	34	SBS540T	42
RKBPC604	374	SB350	34	SBS545T	42
RKBPC606	374	SB360	34	SBS820T	44
RKBPC608	374	SB380	34	SBS830T	44
RKBPC610	374	SB520	36	SBS835T	44
RKBPC8005	376	SB530	36	SBS840T	44
RKBPC801	376	SB540	36	SBS845T	44
RKBPC802	376	SB550	36	SBS850T	44
RKBPC804	376	SB560	36	SBS860T	44
RKBPC806	376	SB580	36	SCH1020	406
RKBPC808	376	SBP1020T	50	SCH1030	406
RKBPC810	376	SBP1030T	50	SCH1040	406
RKBU4A	372	SBP1035T	50	SCH1050	406
RKBU4B	372	SBP1040T	50	SCH1060	406
RKBU4D	372	SBP1045T	50	SCH120	406
RKBU4G	372	SBP1620T	52	SCH130	406
RKBU4J	372	SBP1630T	52	SCH140	406
RKBU4K	372	SBP1635T	52	SCH150	406
RKBU4M	372	SBP1640T	52	SCH160	406
RP16AT	308	SBP1645T	52	SCH320	406
RP16BT	308	SBP1650T	52	SCH330	406
RP16DT	308	SBP1660T	52	SCH340	406
RP16GT	308	SBP3020M	64	SCH350	406

SCH360	406	SG15603C	134	UF4003	110
SCH520	406	SG15604C	134	UF4004	110
SCH530	406	SLP2020P	54	UF4005	110
SCH540	406	SLP2030P	54	UF4006	110
SCH550	406	SLP2035P	54	UF4007	110
SCH560	406	SLP2040P	54	UF5400	112
SD241	56	SLP2045P	54	UF5401	112
SD241P	58	SLP3020P	60	UF5402	112
SDF10	70	SLP3030P	60	UF5403	112
SDF20	70	SLP3035P	60	UF5404	112
SDF30	70	SLP3040P	60	UF5405	112
SDF40	70	SLP3045P	60	UF5406	112
SDF50	70	SRP100A	292	W005M	320
SDF60	70	SRP100B	292	W01M	320
SG15001	86	SRP100D	292	W02M	320
SG15002	86	SRP100G	292	W04M	320
SG15003	86	SRP100J	292	W06M	320
SG15004	86	SRP100K	292	W08M	320
SG15301	92	SRP300A	298	W10M	320
SG15302	92	SRP300B	298	ZGP10-100	182
SG15303	92	SRP300D	298	ZGP10-110	182
SG15304	92	SRP300G	298	ZGP10-120	182
SG15401	120	SRP300J	298	ZGP10-130	182
SG15401C	124	SRP300K	298	ZGP10-140	182
SG15402	120	SRP600A	302	ZGP10-150	182
SG15402C	124	SRP600B	302	ZGP10-160	182
SG15403	120	SRP600D	302	ZGP10-170	182
SG15403C	124	SRP600G	302	ZGP10-180	182
SG15404	120	SRP600J	302	ZGP10-190	182
SG15404C	124	SRP600K	302	ZGP10-200	182
SG15601C	134	UF4001	110		
SG15602C	134	UF4002	110		

Introduction

Quality and Reliability Engineering of the Discrete Semiconductor Division extends its services to the areas of materials and product analysis, statistical quality control, reliability evaluation, quality inspection and development of new test methods.

Headquartered in New York, it assumes the responsibility for the development, implementation and administration of the Quality Assurance and statistical quality control programs for all operations of the Division, both domestic and foreign.

At our manufacturing plants, rigid and extensive in-process statistical quality controls are utilized such that the quality and reliability of our products are consistent and repeatable. The laboratories of our facilities are equipped with the latest high-level instrumentation and staffed with skilled technicians and engineers.

Professional expertise and the most modern scientific equipment maintains our position of excellence and leadership as the foremost producer of semiconductor devices, and assures that the quality levels of our products, from inspection and test of raw materials to final approval of completed devices, meet the highest standards of the industry.

We offer...

- Top-flight specialists and modern facilities.
- Experienced Test and Reliability Engineers.
- Statistical Quality Control.
- Fully equipped laboratories able to perform all types of scientific investigation.

Services of the Materials and Device Analysis Section

- Testing, inspection and evaluation of materials and products utilizing the facilities of the electrical, mechanical, high-reliability and chemical analysis departments of our laboratories.
- Research and development of testing methods.
- Inspection of materials to ensure compliance by suppliers and contractors to specifications.
- Failure analysis to determine the cause of breakdown in materials or components.
- Qualification testing of military devices in accordance with applicable military specifications. The laboratories are qualified to perform testing to MIL-S-19500, MIL-STD-750, MIL-STD-202, and also are qualified to MIL-STD-883 tests under MIL-M-38510. Qualification approvals (QPL listing) were awarded by the United States, Canadian and West German Departments of Defense.
- A continuing program of military reliability (JAN-TX) also is in progress to assure conformance to the requirements for aerospace and the military.

Operational Life

Conditions: Rated voltage, rated current, for 1000 hours at 25°C.

Solderability

Conditions: 95% coverage within 1.2 mm of device body.

DC Blocking

Conditions: Rated voltage for 1000 hours at 100°C in inert environment.

Temperature Cyclin

Conditions: - 65°C to + 175°C.

Storage Life

Conditions: 100°C for 1000 hours in inert environment.

Shock

Conditions: 5 blows of 1500 g's.

Lead Pull

Conditions: Axial pull to destruction.

Vibration (Constant)

Conditions: 20 g's at 60 Hz $\pm$ 20 Hz.

Lead Fatigue

Conditions: Number of 90-degree bends with 0.5 kg weight attached to lead.

Acceleration

Conditions: 20,000 g's.

Moisture Resistance

Conditions: 85°C, 85% Relative Humidity for 10 days.

Salt Atmosphere

Conditions: 5% solution for 24 hours at 35°C.

Flammability

Conditions: Encapsulating compound, General Instrument's proprietary formulas, GI-4B or GI-5A is self-extinguishing, recognized and registered by Underwriters' Laboratories, U.S.

Moisture Capabilities of Diodes, Rectifiers, and Bridges

Conditions: T_a = 25°C to 85°C in Operating Mode Suitability Tested by Reverse Leakage Current at Rated Voltage

Device	Yearly Average		100% RH 30 Days Continuous	95% RH 30 Days Continuous	Balance Occasional 100% RH
	$\geq$ 95% RH	$\geq$ 85% RH			
GPD	■		■		■
GPR	■		■		■
GP10		■	■		■
GP15		■	■		■
GP20	■		■		■
GP30	■		■		■
DO41		■		■	■
WO Series	■		■		■
KBP Series	■			■	■
KBPC Series	■		■		■
KBU Series	■			■	■

Description of HI-REL Test Capabilities

- **Barometric Pressure:** This equipment simulates low atmospheric pressure encountered in non-pressurized environments up to 200,000 feet.
- **Humidity:** This equipment evaluates units in an accelerated manner, and monitors the effects of their resistance to high humidity and heat conditions. Typical RH of 90 to 98% is achieved.
- **Salt (Spray) and Salt Atmosphere:** The equipment provides an accelerated laboratory corrosion test simulating the effects of seacoast atmospheres. Salt concentration and velocity per day can be maintained between 10,000 and 50,000 mgm/m²/day. Salt Atmosphere—Salt spray 5%—20% salt solution.
- **Thermal Shock Temp.-Cycling:** This test determines the resistance of devices to exposure at extremely high and low temperatures. Chamber limits – 74°C to 250°C.
- **Mass Spectrometer Leak Detector (Fine Leak):** To determine the effectiveness (or the hermeticity) of the seal on devices with internal cavities which are evacuated on contain air or gas. Machine limits $1 - 10^{-9}$ to 10^{-10} atm.
- **Gross Leak:** Determine seal leak greater than $10 - 10^{-6}$ ATM cc/Sec.
- **Constant Acceleration:** Determines the effects of a centrifugal force on devices up to 700,000 g under space environment (refrigerated vacuum).
- **Shock:** Subjects the devices to conditions resulting from sudden applied forces or abrupt changes in motion produced by rough handling, transportation or field operation from 10 to 4,500 g.
- **Vibration Fatigue:** Tests the effects of vibration within the frequency range of 60 Hz at 0-70 g.
- **Vibration Noise:** Measures the amount of electrical noise produced by the devices under vibration from 0-5kHz and 0-70 g.
- **Vibration Variable Frequency:** Tests the effect of the devices to vibration in specified frequency ranges from 0-5 kHz at 0-70 g.
- **Non-Operating Life:** To determine the effects on devices at elevated temperatures. Temperature ranges up to 300°C.
- **Operating Life Test:** To operate the devices under intended condition to screen and eliminate marginal devices and eliminate mortality.
 - Steady State Operating Life.
 - Reverse Bias Operating Life
 - Intermittent Operating Life.
- **Solderability—Lead Integrity (Lead Tension):**
Determine the solderability on all devices from 0 to 400°C. Lead Tension—Designed to check the capabilities of the devices to withstand straight pulls.
- **Lead Integrity (bending stress):** Check the quality of leads, welds and seals of the devices to withstand bends under specific weights.
- **Lead Integrity (lead torque):** Check the devices, leads and seals for resistance to twisting motion. Equipment limits from .5 cmkg to 100 mkg.
- **Hi-Power Microscopic Inspection:** Examine internal and external construction of our devices up to 600 times.
- **Bond Strength:** This determines strength of lead bonding between the active area of the device and connecting packaging lead.

Hi-Reliability, Military, JAN and JANTX Devices

The discrete semiconductor division is proud of its performance record in the manufacture of Hi-Reliability Military products. Military products are available to three levels of screening JAN, JANTX and JANTXV. When reliability classes are required for use in military applications, or other very critical areas which are not for military use but require the same special processing the JAN and JANTX devices are available. Where possible it is advantageous to specify a JAN or JANTX device rather than a special screening procedure because the JAN and JANTX parts are already processed as a standard stock item and do not place an additional load on the factory as will a small speciality requirement.

Reliability of each individual JAN and JANTX lot is accepted when specially tested, versus a commercial lot where a product line is tested for reliability on a periodic basis. JAN devices are processed according to the JAN specifications. JANTX devices have 100% processing and conditioning prior to release to the customer. Both JAN and JANTX devices are lot accepted by undergoing tests including electrical, solderability, thermal shock, terminal strength, moisture resistance, shock, vibration, acceleration, salt atmosphere, surge, storage and operating life. JAN parts are inspected electrically and shipped to the customer. All JANTX devices go through an additional environmental screening consisting of:

- | | |
|---|---|
| ■ Stabilization Bake for a minimum of 24 hours. | ■ Initial Electrical with data. |
| ■ Temperature Cycling of 10 complete cycles. | ■ Operating Life Burn-In for a minimum of 96 hours. |
| ■ Acceleration of 20,000 G's. | ■ Post Electrical with data. |
| ■ Fine Leak. | ■ Delta Calculations on leakage current and forward voltage drop. |
| ■ Gross Leak. | |

These devices are being processed on a daily ongoing basis. This in turn makes for a hi-reliability 100% screened part readily available as an off-the-shelf item.



MILITARY APPROVED PRODUCTS

Products Qualify Under Military Specification, MIL-S-19500
Glass composition is covered by patent No. 3,752,701—1973.

OPERATING TEMPERATURE - 65°C to +175°C
STORAGE TEMPERATURE - 65°C to +200°C

Type	PRV	Max Avg. Current @ Half-wave Res. Load 60Hz	Max Fwd Peak Surge Current 1 ~ 60Hz Superimposed	Max Reverse Current @ Rated Peak Reverse Voltage	Max Forward Voltage @ T _A = 25°C		Minimum Breakdown Voltage @ 100μA	Max Reverse Recovery Time Note 1	Qualified Detailed Spec Number	Outline
		I _o @ T _A	I _{FM} (Surge)	I _R	I _{FM}	V _{FM}	V _{BR}	T _{rr}		
	V _{pk}	A _{av} °C	Apk	μA _{dc}	Apk	V _{pk}	V _{pk}	μS		
				T _A = 25°C T _A = 150°C						

GENERAL PURPOSE

J, JTX1N483B	70	.200	.25	2.0	.025	5.0	.100	1.0	80		118	DO204MB
J, JTX1N485B	180	.200	.25	2.0	.025	5.0	.100	1.0	200		118	DO204MB
J, JTX1N486B	225	.200	.25	2.0	.025	5.0	.100	1.0	250		118	DO204MB
J, JTX1N645	225	.400	.25	5.0	.025	15	.400	1.0	270		240	DO204MB
J, JTX1N647	400	.400	.25	5.0	.025	15	.400	1.0	480		240	DO204MB
J, JTX1N649	600	.400	.25	5.0	.050	25	.400	1.0	720		240	DO204MB
J, JTX, JTXV1N645-1	225	.400	.25	5.0	.050	25	.400	1.0	270 ²		240	DO204MB
J, JTX, JTXV1N647-1	400	.400	.25	5.0	.050	25	.400	1.0	480 ²		240	DO204MB
J, JTX, JTXV1N649-1	600	.400	.25	5.0	.050	25	.400	1.0	720 ²		240	DO204MB
J, JTX1N3611	200	1.0	100	20	1.0	300	1.0	1.1	240		228	DO204AP*
J, JTX1N3612	400	1.0	100	20	1.0	300	1.0	1.1	460		228	DO204AP*
J, JTX1N3613	600	1.0	100	20	1.0	300	1.0	1.1	720		228	DO204AP*
J, JTX1N3614	800	1.0	100	20	1.0	300	1.0	1.1	920		228	DO204AP*
J, JTX1N3957	1000	1.0	100	20	1.0	300	1.0	1.1	1150		228	DO204AP*
J, JTX, JTXV1N4245	200	1.0	100	25	1.0	150	3.0	1.3	240	5.0	286	DO204AP
J, JTX, JTXV1N4246	400	1.0	100	25	1.0	150	3.0	1.3	480	5.0	286	DO204AP
J, JTX, JTXV1N4247	600	1.0	100	25	1.0	150	3.0	1.3	720	5.0	286	DO204AP
J, JTX, JTXV1N4248	800	1.0	100	25	1.0	150	3.0	1.3	960	5.0	286	DO204AP
J, JTX, JTXV1N4249	1000	1.0	100	25	1.0	150	3.0	1.3	1150	5.0	286	DO204AP
J, JTX1N5624	200	3.5	55	125	1.0	100	3.5	1.0	240 ²	5.0	432	G3*
J, JTX1N5625	400	3.5	55	125	1.0	100	3.5	1.0	460 ²	5.0	432	G3*
J, JTX1N5626	600	3.5	55	125	1.0	100	3.5	1.0	600 ²	5.0	432	G3*
J, JTX1N5627	800	3.5	55	125	1.0	100	3.5	1.0	880 ²	5.0	432	G3*

FAST-SWITCHING

J, JTX, JTXV1N4942	200	1.0	55	15	1.0	200	1.0	1.3	240 ²	.150	359	DO204AP
J, JTX, JTXV1N4944	400	1.0	55	15	1.0	200	1.0	1.3	460 ²	.150	359	DO204AP
J, JTX, JTXV1N4946	600	1.0	55	15	1.0	200	1.0	1.3	660 ²	.150	359	DO204AP
J, JTX, JTXV1N4947	800	1.0	55	15	1.0	200	1.0	1.3	880 ²	.250	359	DO204AP
J, JTX, JTXV1N4948	1000	1.0	55	15	1.0	200	1.0	1.3	1100 ²	.500	359	DO204AP
J, JTX, JTXV1N5415	50	3.0	55	80	1.0	20 ³	9.0	1.5	55 ²	.150	411C	G4
J, JTX, JTXV1N5416	100	3.0	55	80	1.0	20 ³	9.0	1.5	110 ²	.150	411C	G4
J, JTX, JTXV1N5417	200	3.0	55	80	1.0	20 ³	9.0	1.5	220 ²	.150	411C	G4
J, JTX, JTXV1N5418	400	3.0	55	80	1.0	20 ³	9.0	1.5	440 ²	.150	411C	G4
J, JTX, JTXV1N5419	500	3.0	55	80	1.0	20 ³	9.0	1.5	550 ²	.250	411C	G4
J, JTX, JTXV1N5420	600	3.0	55	80	1.0	20 ³	9.0	1.5	660 ²	.400	411C	G4
J, JTX, JTXV1N5550	220	5.0	55 ²	100	1.0	75 ³	9.0	1.2	220 ²	2.0	420A	G4
J, JTX, JTXV1N5551	400	5.0	55 ²	100	1.0	75 ³	9.0	1.2	440 ²	2.0	420A	G4
J, JTX, JTXV1N5552	600	5.0	55 ²	100	1.0	75 ³	9.0	1.2	660 ²	2.0	420A	G4
J, JTX, JTXV1N5553	800	5.0	55 ²	100	1.0	75 ³	9.0	1.2	880 ²	2.0	420A	G4
J, JTX, JTXV1N5554	1000	5.0	55 ²	100	1.0	75 ³	9.0	1.2	1100 ²	2.0	420A	G4
J, JTX, JTXV1N5614	200	1.0	55	30	0.5	25 ³	3.0	1.3	240 ²	2.0	427B	DO204AP*
J, JTX, JTXV1N5616	400	1.0	55	30	0.5	25 ³	3.0	1.3	440 ²	2.0	427B	DO204AP*
J, JTX, JTXV1N5618	600	1.0	55	30	0.5	25 ³	3.0	1.3	660 ²	2.0	427B	DO204AP*
J, JTX, JTXV1N5620	800	1.0	55	30	0.5	25 ³	3.0	1.3	880 ²	2.0	427B	DO204AP*
J, JTX, JTXV1N5622	1000	1.0	55	30	0.5	25 ³	3.0	1.3	1100 ²	2.0	427B	DO204AP*
J, JTX, JTXV1N5615	200	1.0	55	25	0.5	25 ³	3.0	1.6	220 ²	.150	429B	DO204AP*
J, JTX, JTXV1N5617	400	1.0	55	25	0.5	25 ³	3.0	1.6	440 ²	.150	429B	DO204AP*
J, JTX, JTXV1N5619	600	1.0	55	25	0.5	25 ³	3.0	1.6	660 ²	.250	429B	DO204AP*
J, JTX, JTXV1N5621	800	1.0	55	25	0.5	25 ³	3.0	1.6	800 ²	.300	429B	DO204AP*
J, JTX, JTXV1N5623	1000	1.0	55	25	0.5	25 ³	3.0	1.6	1100 ²	.500	429B	DO204AP*



MILITARY APPROVED PRODUCTS

Products Qualify Under Military Specification, MIL-S-19500
Glass composition is covered by patent No. 3,752,701-1973.

OPERATING TEMPERATURE - 65°C to + 175°C
STORAGE TEMPERATURE - 65°C to + 200°C

Type	PRV	Max Avg. Current @Half-wave Res. Load 60Hz		Max Fwd Peak Surge Current 11 – 60Hz Superimposed	Max Reverse Current @ Rated Peak Reverse Voltage		Max Forward Voltage @ T _A = 25°C		Minimum Breakdown Voltage @ 100μA	Max Reverse Recovery Time Note 1	Qualified Detailed Spec Number	Outline
		I _O @ T _A		I _{FM} (Surge)	I _R	I _{FM}	V _{FM}	V _{BR}	T _{rr}			
	V _{pk}	A _{av}	°C	A _{pk}	μA _{dc}		A _{pk}	V _{pk}	V _{pk}	μS		
					T _A = 25°C T _A = 150°C							

FAST-EFFICIENT

J, JTX, JTXV1N5807	50	6.0	75 ⁷	125	5.0	150 ³	6.0	.925	60	.030 ⁴	477	G4*
J, JTX, JTXV1N5809	100	6.0	75 ⁷	125	5.0	150 ³	6.0	.925	110	.030 ⁴	477	G4*
J, JTX, JTXV1N5811	150	6.0	75 ⁷	125	5.0	150 ³	6.0	.925	180	.030 ⁴	477	G4*

GLASS PASSIVATED BRIDGE RECTIFIER

J, JTX M19500/469-01	200	10	55 ⁵	100	2.0	125 ⁶	15.7	1.35	240 ²	2.0	469	M19500
J, JTX M19500/469-02	400	10	55 ⁵	100	2.0	125 ⁶	15.7	1.35	460 ²	2.0	469	M19500
J, JTX M19500/469-03	600	10	55 ⁵	100	2.0	125 ⁶	15.7	1.35	660 ²	2.0	469	M19500
J, JTX M19500/469-04	800	10	55 ⁵	100	2.0	125 ⁶	15.7	1.35	880 ²	2.0	469	M19500

NOTES:

1. REVERSE RECOVERY TEST CONDITIONS: I_R = 0.5A, I_R = 1.0A, I_{rr} = 0.25A.
2. I_{FM} = 50μA.
3. T_A = 100°C.
4. REVERSE RECOVERY TEST CONDITIONS: I_R = 1.0A, I_R = 1.0A, I_{rr} = 0.1A.
5. T_C = 55°C.
6. T_C = 100°C.
7. T_L = 75°C at lead lengths of .375", 9.5mm.
8. T_L = 55°C at lead lengths of .375", 9.5mm.

BI-POLARITY TRANSIENT VOLTAGE SUPPRESSORS/**DO204AP OUTLINE QUALIFIED DETAILED SPEC NBR 516

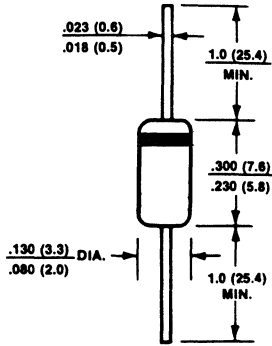
OPERATING AND STORAGE TEMPERATURES - 65°C to + 175°C

Type	Breakdown Voltage @ I _T Min Max Note 1	Max DC Power Dissipation T _L = 25°C Note 2	Test Current	Maximum Peak Surge Voltage @ 1mS	Maximum Peak Surge Current @ 1mS	Maximum Reverse Leakage Current @ T _A = 25°C		Maximum Temperature Coefficient Of V _{BR}	Maximum Peak Surge @ 1ms
	V _{BR}	PD	I _T	V _{SM}	I _{SM}	I _R	V _R		P _{SM}
	Volts	WATTS	mA	V _{PK}	A _{PK}	μA	Volts	%/°C	WATTS
J, JTX, JTXV1N6113	18.0 - 22.0	3.0	65	29.0	17.2	1.0	15.2	.085	500
J, JTX, JTXV1N6114	19.8 - 24.2	3.0	50	31.9	15.7	1.0	16.7	.085	500
J, JTX, JTXV1N6115	21.6 - 26.4	3.0	50	34.8	14.4	1.0	18.2	.090	500
J, JTX, JTXV1N6116	24.3 - 29.7	3.0	50	39.2	12.8	1.0	20.6	.090	500
J, JTX, JTXV1N6117	27.0 - 33.0	3.0	40	43.6	11.5	1.0	22.8	.090	500
J, JTX, JTXV1N6118	29.7 - 36.3	3.0	40	47.9	10.4	1.0	25.1	.095	500
J, JTX, JTXV1N6119	32.4 - 39.6	3.0	30	52.3	9.6	1.0	27.4	.095	500
J, JTX, JTXV1N6120	35.1 - 42.9	3.0	30	56.2	8.9	1.0	29.7	.095	500
J, JTX, JTXV1N6121	38.7 - 47.3	3.0	30	62.0	8.1	1.0	32.7	.095	500
J, JTX, JTXV1N6122	42.3 - 51.7	3.0	25	67.7	7.4	1.0	35.8	.095	500
J, JTX, JTXV1N6123	45.9 - 56.1	3.0	25	73.5	6.8	1.0	38.8	.095	500
J, JTX, JTXV1N6124	50.4 - 61.6	3.0	20	80.7	6.2	1.0	42.6	.095	500
J, JTX, JTXV1N6125	55.8 - 68.2	3.0	20	89.3	5.6	1.0	47.1	.100	500
J, JTX, JTXV1N6126	61.2 - 74.8	3.0	20	98.0	5.1	1.0	51.7	.100	500
J, JTX, JTXV1N6127	67.5 - 82.5	3.0	20	108.1	4.6	1.0	56.0	.100	500
J, JTX, JTXV1N6128	73.8 - 90.2	3.0	15	118.2	4.2	1.0	62.2	.100	500
J, JTX, JTXV1N6129	81.9 - 100.1	3.0	15	131.1	3.8	1.0	69.2	.100	500
J, JTX, JTXV1N6130	90.0 - 110.0	3.0	12	144.1	3.5	1.0	76.0	.100	500
J, JTX, JTXV1N6131	99.0 - 121.0	3.0	12	158.5	3.2	1.0	83.6	.100	500
J, JTX, JTXV1N6132	108 - 132	3.0	10	172.9	2.9	1.0	91.2	.100	500
J, JTX, JTXV1N6133	117 - 143	3.0	10	187.3	2.7	1.0	98.8	.105	500
J, JTX, JTXV1N6134	135 - 165	3.0	8.0	216.2	2.3	1.0	114.0	.105	500
J, JTX, JTXV1N6135	144 - 176	3.0	8.0	228.8	2.2	1.0	121.6	.105	500
J, JTX, JTXV1N6136	162 - 198	3.0	5.0	257.4	1.9	1.0	136.8	.110	500
J, JTX, JTXV1N6137	180 - 220	3.0	5.0	286.0	1.7	1.0	152.0	.110	500

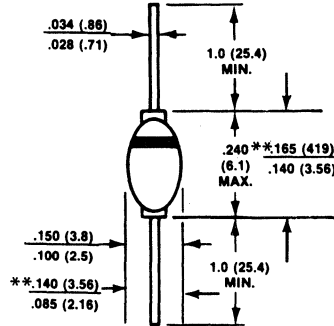
NOTES:

1. Stand Voltage Tolerance +/ - 10%, Suffix A +/ - 5%.
2. Lead lengths of .375" (9.5mm).

CASE DRAWINGS¹ ALL DIMENSIONS IN INCHES AND (MILLIMETERS)

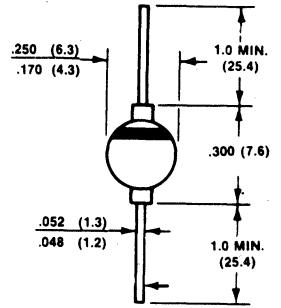


DO-204MB



*Body Dia. .110 (2.8)
.060 (1.5)

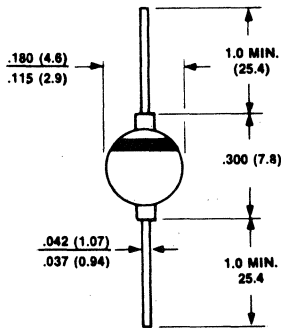
DO-204AP



* Body Dia.: .230 (5.8)
.160 (4.06)

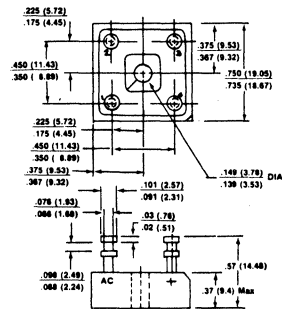
* Body Length: .260 (6.6)
.200 (5.08)

G3



*Body dia. .165 (4.2)
.115 (2.9)

G4



TERMINAL POLARITY
1 - AC 3 - AC
2 - 4 -

M19500

SCHOTTKY RECTIFIERS 1 TO 40 AMPERES

Axial Plastic Schottky Rectifiers 1 to 5 AMPERES

Types: SB120 thru SB160
SB170 thru SB180
SB320 thru SB380
SB520 thru SB580
1N5717 thru 1N5819
1N5820 thru 1N5822
GI5823 thru GI5825

Features:

- Economical plastic molded construction
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

High Current Schottky Rectifiers 5 to 16 AMPERES single chip

Types: SBS520T thru SBS545T
SBS820T thru SBS860T
SBS1020T thru SBS1045T
SBS1620T thru SBS1645T

Features:

- Low thermal resistance
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

High Current Schottky Rectifiers 10 to 40 AMPERES center tapped

Types: SBP1020T thru SBP1045T
SBP1620T thru SBP1660T
SLP2020P thru SLP2045P
SBP3020P thru SBP3060P
SLP3020P thru SLP3045P
SD241/SD241P
SBP3020M thru SBP3060M
SBP4020P thru SBP4060P

Features:

- Dual rectifier construction
- Low thermal resistance
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

Plastic Schottky Rectifier Bridges 1 AMPERE

Types: SDF10M thru SDF60M

Features:

- Economical plastic molded construction
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

AXIAL SCHOTTKY RECTIFIERS

TYPE	SB120 thru SB160	SB170 thru SB180	1N5817 thru 1N5819	SB320 thru SB380	1N5820 thru 1N5822	SB520 thru SB580	GI5823 thru GI5825	TYPE
CASE	F-126	F-126	F-126	DO201AD	DO201AD	DO201AD	DO201AD	CASE
I_o (A)	1.0	1.0	1.0	3.0	3.0	5.0	5.0	I_o (A)
@ T_L (°C)	75	75	80	75	95	60	95	@ T_L (°C)
$V_R = 20$ (V)	SB120		1N5817	SB320	1N5820	SB520	GI5823	$V_R = 20$ (V)
$V_R = 30$ (V)	SB130		1N5818	SB330	1N5821	SB530	GI5824	$V_R = 30$ (V)
$V_R = 40$ (V)	SB140		1N5819	SB340	1N5822	SB540	GI5825	$V_R = 40$ (V)
$V_R = 50$ (V)	SB150			SB350		SB550		$V_R = 50$ (V)
$V_R = 60$ (V)	SB160			SB360		SB560		$V_R = 60$ (V)
$V_R = 70$ (V)		SB170						
$V_R = 80$ (V)		SB180		SB380		SB580		
SURGE (A)	40	40	25	150	80	250	250	SURGE (A)
V_F (V)	0.55/.70	.80	0.45/0.60	0.50/0.80	0.475/0.525	0.57/0.80	.45	V_F (V)
Page	26	28	30	34	32	36	38	Page

HIGH CURRENT SCHOTTKY RECTIFIERS

TYPE	SBS520T thru SBS545T	SBS820T thru SBS860T	SBS1020T thru SBS1045T	SBS1620T thru SBS1660T	SBP1020T thru SBP1045T	SBP1620T thru SBP1660T	SBP3020P thru SBP3060P	SLP2020P thru SLP2045P	SLP3020P thru SLP3045P	SBP3020M thru SBP3060M	SBP4020P thru SBP4060P	SDF10M TO SDF60M	TYPE
CASE	TO220	TO220	TO220	TO220	TO220CT	TO220CT	TO3P	TO3P	TO3P	TO3M	TO3P	DFM	CASE
I_o (A)	5.0	8.0	10.0	16.0	10.0	16.0	30.0	20.0	30.0	30.0	40.0	1.0	I_o (A)
@ T_C (°C)	114	95	95	90	104	90	100	95	90	100	100	40	T_A (°C)
$V_R = 20$ (V)	SBS520T	SBS820T	SBS1020T	SBS1620T	SBP1020T	SBP1620T	SBP3020P	SLP2020P	SLP3020P	SBP3020M	SBP4020P	SDF20M	$V_R = 20$ (V)
$V_R = 30$ (V)	SBS530T	SBS830T	SBS1030T	SBS1630T	SBP1030T	SBP1630T	SBP3030P	SLP2030P	SLP3030P	SBP3030M	SBP4030P	SDF30M	$V_R = 30$ (V)
$V_R = 35$ (V)	SBS535T	SBS835T	SBS1035T	SBS1635T	SBP1035T	SBP1635T	SBP3035P	SLP2035P	SLP3035P	SBP3035M	SBP4035P		$V_R = 35$ (V)
$V_R = 40$ (V)	SBS540T	SBS840T	SBS1040T	SBS1640T	SBP1040T	SBP1640T	SBP3040P	SLP2040P	SLP3040P	SBP3040M	SBP4040P	SDF40M	$V_R = 40$ (V)
$V_R = 45$ (V)	SBS545T	SBS845T	SBS1045T	SBS1645T	SBP1045T	SBP1645T	SBP3045P	SLP2045P	SLP3045P	SBP3045M	SBP4045P		$V_R = 45$ (V)
$V_R = 50$ (V)		SBS850T				SBP1650T	SBP3050P			SBP3050M	SBP4060P	SDF50M	$V_R = 50$ (V)
$V_R = 60$ (V)		SBS860T				SBP1660T	SBP3060P			SBP3060M		SDF60M	$V_R = 60$ (V)
SURGE (A)	100	250	150	250	100	250	300	120	250	300	300	75	SURGE (A)
V_F (V)	0.55	0.65/0.75	0.57	0.65	0.55	0.65/0.75	0.65/0.75	0.55	0.55	0.65/0.75	0.65/0.75	0.606.65	V_F (V)
Page	42	44	46	48	50	52	62	54	60	64	66	70	Page

AXIAL PLASTIC SCHOTTKY RECTIFIERS 1 TO 5 AMPERES

SB120 THRU SB160

MINIATURE SCHOTTKY BARRIER RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Low cost
- Plastic material used carries Underwriters Laboratory Flammability Classifications 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension.

MECHANICAL DATA

Case: F-126 Molded Plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.012 ounces, .34 grams

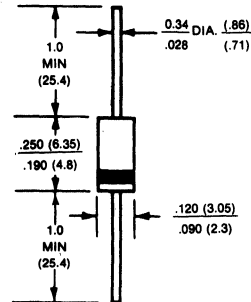
VOLTAGE RANGE

20 to 60 Volts

CURRENT

1.0 Amperes

F-126



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

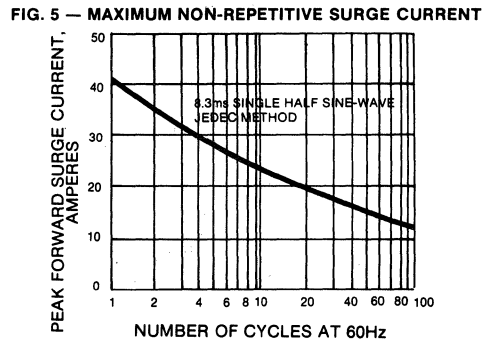
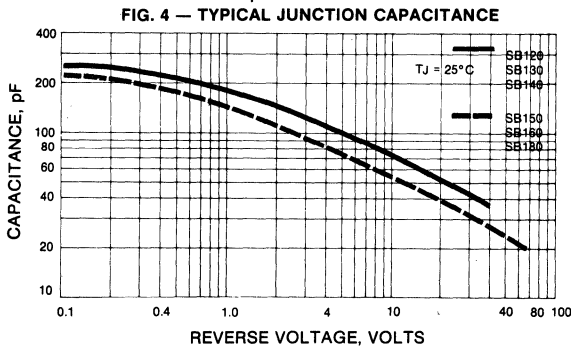
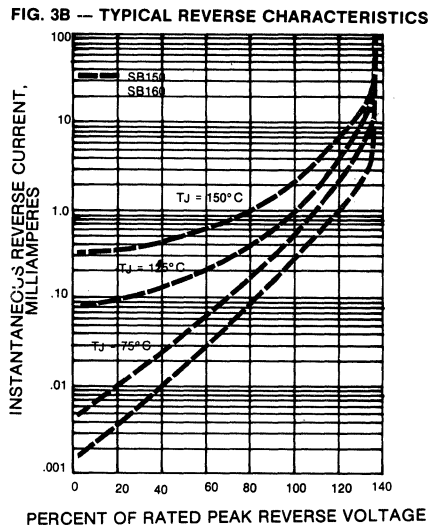
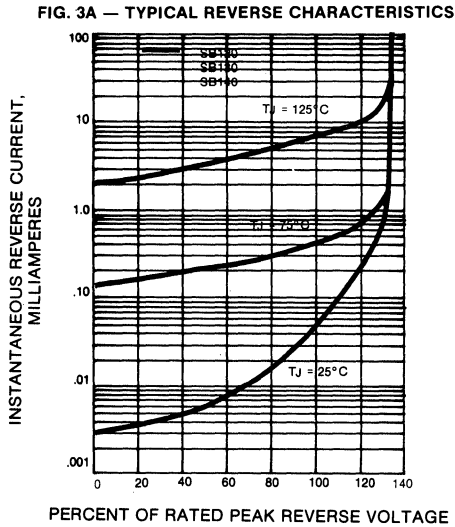
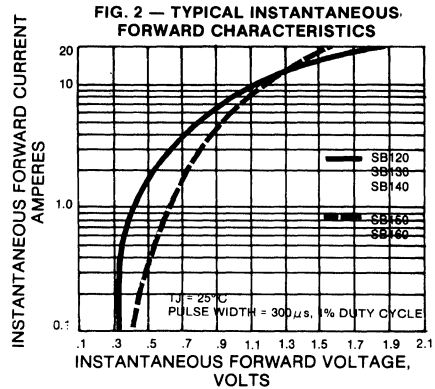
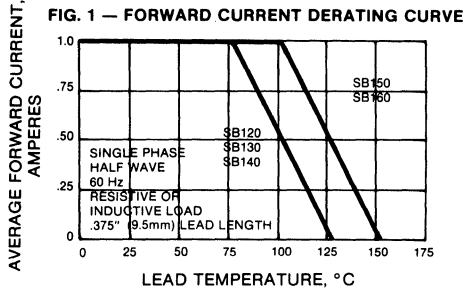
	SB120	SB130	SB140	SB150	SB160	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	40	50	60	V
Maximum RMS Voltage	14	21	28	35	42	V
Maximum DC Blocking Voltage	20	30	40	50	60	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length See Fig. 1	1.0					A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	40.0					A
Maximum Instantaneous Forward Voltage at 1.0A	.50			.70		V
Maximum Average Reverse Current at Rated DC Blocking Voltage T _J = 25°C T _J = 100°C	1.0 10					mA mA
Typical Thermal Resistance R _{ΘJA} (Note 1)	50					°C/W
Typical Junction Capacitance (Note 2)	110			80		pF
Operating Temperature Range T _J	-65 to +125			-65 to +150		°C
Storage Temperature Range T _{STG}	-65 to +150					°C

NOTES

1. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5" (12.7mm) Lead Length

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

**RATING AND CHARACTERISTIC CURVES
SB120 THRU SB160**



SB170 THRU SB180

MINIATURE SCHOTTKY BARRIER RECTIFIERS

**GENERAL
INSTRUMENT**

FEATURES

- Low cost
- Plastic material used carries Underwriters Laboratory Flammability Classifications 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: F-126 Molded Plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.012 ounces, .34 grams

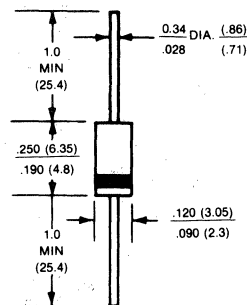
VOLTAGE RANGE

70 to 80 Volts

CURRENT

1.0 Amperes

F-126



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SB170	SB180	UNITS
Maximum Recurrent Peak Reverse Voltage	70	80	V
Maximum RMS Voltage	50	56	V
Maximum DC Blocking Voltage	70	80	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length See Fig. 1	1.0		A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	40.0		A
Maximum Instantaneous Forward Voltage at 1.0A	.80		V
Maximum Average Reverse Current at Rated DC Blocking Voltage $T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$	1.0 10		mA mA
Typical Thermal Resistance $R_{\theta JA}$ (Note 1)	50		°C/W
Typical Junction Capacitance (Note 2)	80		pF
Operating Temperature Range T_J	-65 to +150		°C
Storage Temperature Range T_{STG}	-65 to +150		°C

NOTES:

1. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5" (12.7mm) Lead Length.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

**RATING AND CHARACTERISTIC CURVES
SB170 THRU SB180**

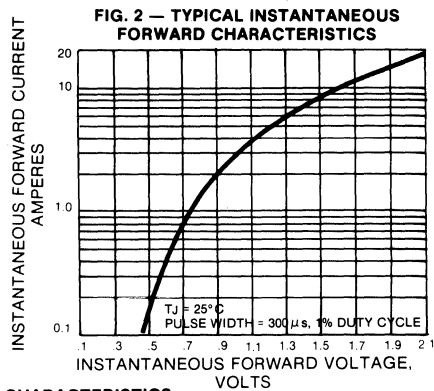
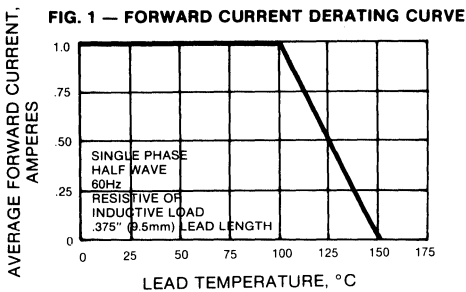


FIG. 3A — TYPICAL REVERSE CHARACTERISTICS

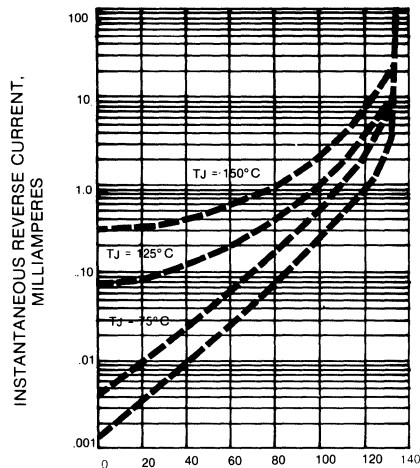


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

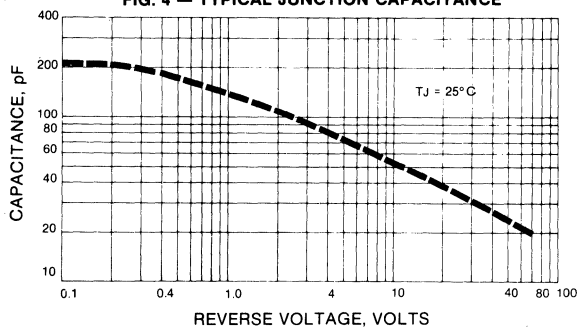
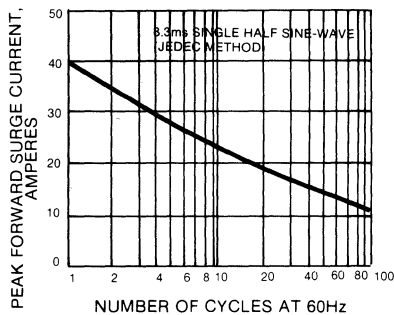


FIG. 5 — MAXIMUM NON-REPETITIVE SURGE CURRENT



IN5817 THRU IN5819

MINIATURE SCHOTTKY BARRIER RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Low cost
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: F-126 Molded Plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.012 ounces, .34 grams

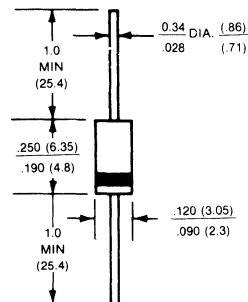
VOLTAGE RANGE

20, 30, 40 Volts

CURRENT

1.0 Amperes

F-126



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	IN5817	IN5818	IN5819	UNITS
*Maximum Recurrent Peak Reverse Voltage	20	30	40	V
Maximum RMS Voltage	14	21	28	V
Maximum DC Blocking Voltage	20	30	40	V
*Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_L = 90^\circ\text{C}$	1.0			A
*Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) $T_L = 70^\circ\text{C}$	25			A
*Maximum Forward Voltage at 1.0A	.45	.55	.60	V
*Maximum Forward Voltage at 3.1A	.75	.875	.90	V
*Maximum Average Reverse Current at Peak Reverse Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	1.0 10			mA mA
Typical Thermal Resistance $R_{\theta JA}$ (Note 1)	80			$^\circ\text{C/W}$
Typical Junction Capacitance (Note 2)	110			pF
*Storage and Operating Temperature Range T_J, T_{STG}	-65 to +125			$^\circ\text{C}$

NOTES:

1. Thermal Resistance Junction to Ambient Vertical PC Board Mounting, 0.5", 1.27mm Lead Length

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

* JEDEC registered values

RATING CHARACTERISTIC CURVES
IN5817 THRU IN5819

FIG. 1 — FORWARD CURRENT DERATING CURVE

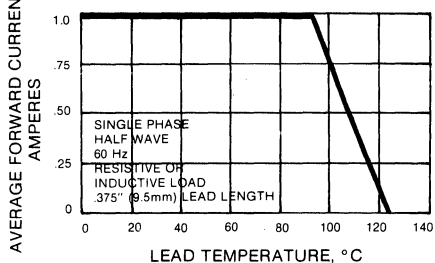


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

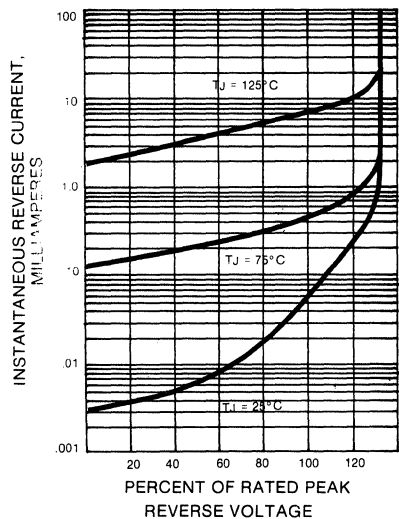


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

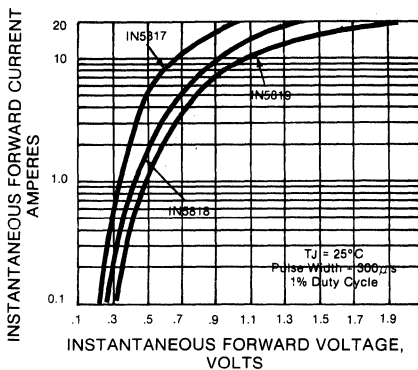


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

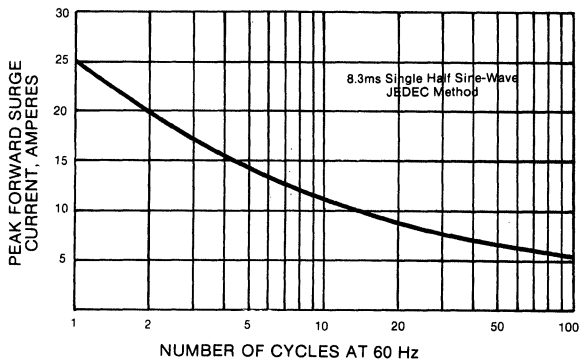
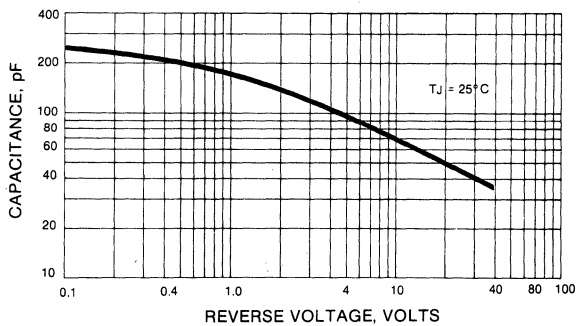


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



1N5820 THRU 1N5822

HIGH CURRENT SCHOTTKY BARRIER RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Low cost
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 300°C/10 seconds/.375", 9.5mm lead lengths at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: DO-201AD Molded Plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.04 ounces, 1.12 grams

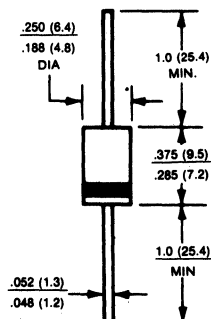
VOLTAGE RANGE

20, 30, 40 Volts

CURRENT

3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	1N5820	1N5821	1N5822	UNITS
* Maximum Recurrent Peak Reverse Voltage	20	30	40	V
Maximum RMS Voltage	14	21	28	V
Maximum DC Blocking Voltage	20	30	40	V
* Maximum Average Forward Rectified Current .375", 9.5mm lead length at $T_L = 95^\circ\text{C}$	3.0			A
* Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) $T_L = 75^\circ\text{C}$	80			A
* Maximum Instantaneous Forward Voltage at 3.0A (Note 1)	.475	.500	.525	V
* Maximum Instantaneous Forward Voltage at 9.4A (Note 1)	.850	.900	.950	V
* Maximum Average Reverse Current at rated DC Blocking Voltage (Note 1) $T_L = 25^\circ\text{C}$ $T_L = 100^\circ\text{C}$	2.0 20			mA mA
Typical Thermal Resistance $ROJA$ (Note 2)	28			$^\circ\text{C}/\text{W}$
Typical Junction Capacitance (Note 3)	250			pF
* Storage and Operating Temperature Range T_J, T_{STG}	-65 to +125			$^\circ\text{C}$

NOTES:

1. Measured at Pulse Width 300 μs , Duty Cycle 2%.

2. Thermal Resistance Junction to Ambient Vertical PC Board Mounting, 0.5" (12.5mm) Lead Lengths.

3. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

* JEDEC Registered Value.

**RATING CHARACTERISTIC CURVES
1N5820 THRU 1N5822**

FIG. 1 — FORWARD CURRENT DERATING CURVE

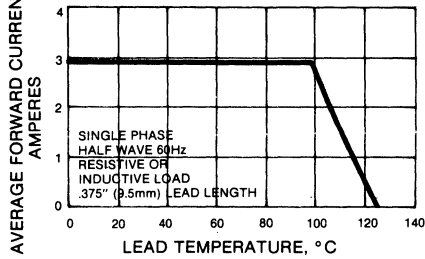


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

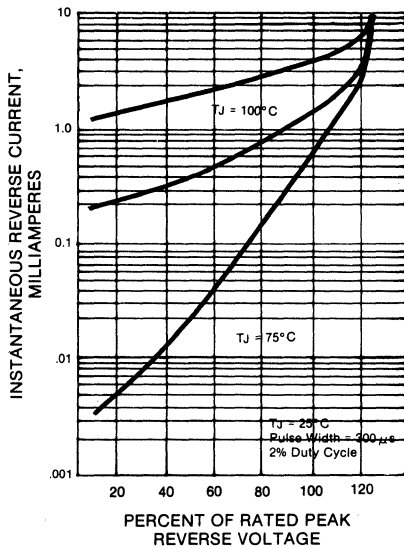


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

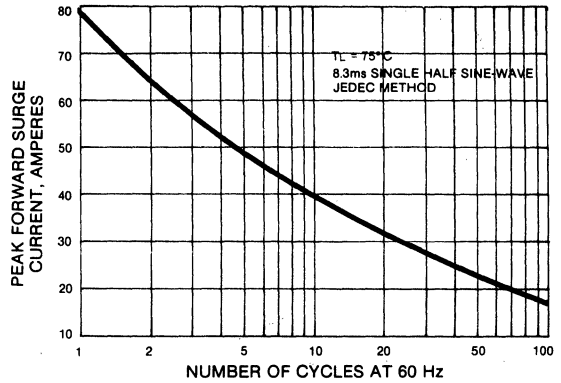


FIG. 4 — TYPICAL FORWARD CHARACTERISTICS

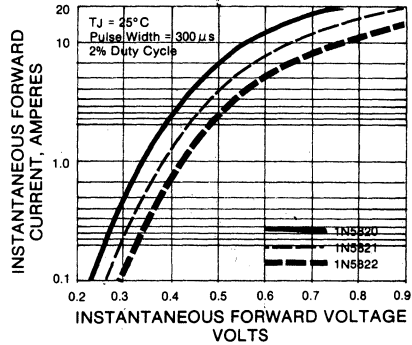
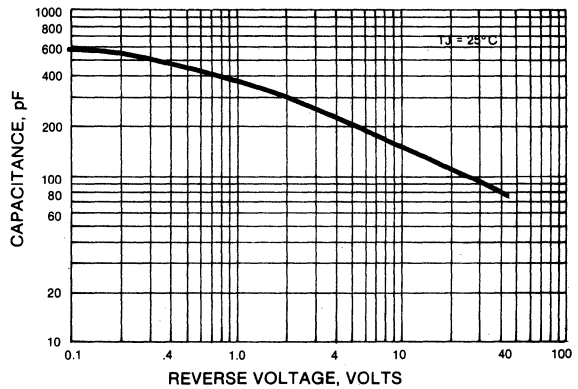


FIG 5 — TYPICAL JUNCTION CAPACITANCE



SB320 THRU SB360

HIGH CURRENT SCHOTTKY BARRIER RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Low cost
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: DO-201AD Molded Plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Band denotes cathode
Mounting Position: Any
Weight: 0.04 ounces, 1.12 grams

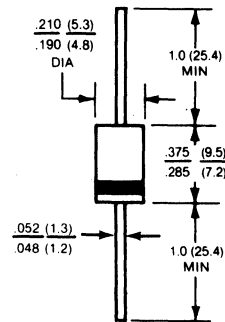
VOLTAGE RANGE

20 to 80 Volts

CURRENT

3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SB320	SB330	SB340	SB350	SB360	SB380	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	40	50	60	80	V
Maximum RMS Voltage	14	21	28	35	42	56	V
Maximum DC Blocking Voltage	20	30	40	50	60	80	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Length See Fig. 1	3.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	150						A
Maximum Instantaneous Forward Voltage at 3.0A	.50		.75		.80		V
Maximum Average Reverse Current at Rated DC Reverse Voltage	3.0 30						mA mA
Typical Thermal Resistance ROJA (Note 1)	35						°C/W
Typical Junction Capacitance (Note 2)	300						pF
Operating Temperature Range T _J	-65 to +125			-65 to +150			°C
Storage Temperature Range T _{STG}	-65 to +150						°C

NOTES:

1. Thermal Resistance Junction to Ambient Vertical PC Board Mounting, 0.5", 12.7mm Lead Length.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES **SB320 THRU SB360**

FIG. 1 — FORWARD CURRENT DERATING CURVE

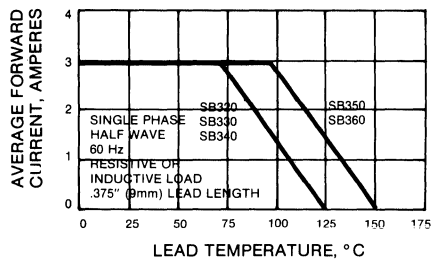


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

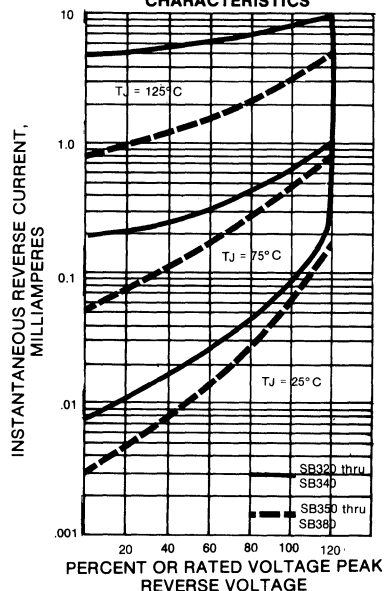


FIG. 5 — MAXIMUM NON-REPETITIVE SURGE CURRENT

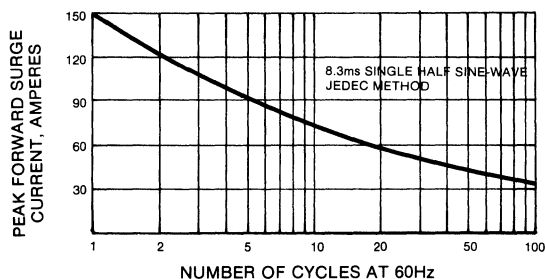


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

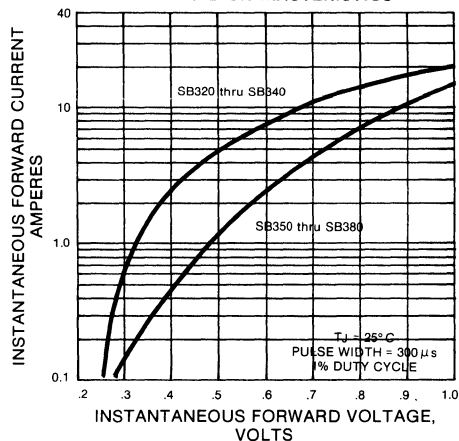
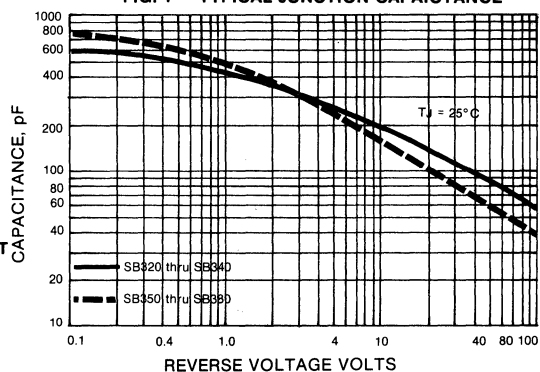


FIG. 4 — TYPICAL JUNCTION CAPAICTANCE



SB520 THRU SB580

HIGH CURRENT SCHOTTKY BARRIER RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Low cost
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: DO-201AD Molded Plastic
 Terminals: Axial leads, solderable per MIL-STD-202 Method 208
 Polarity: color band denotes cathode
 Mounting Position: Any
 Weight: 0.04 ounces, 1.12 grams

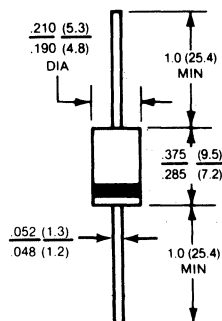
VOLTAGE RANGE

20 to 80 Volts

CURRENT

5.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

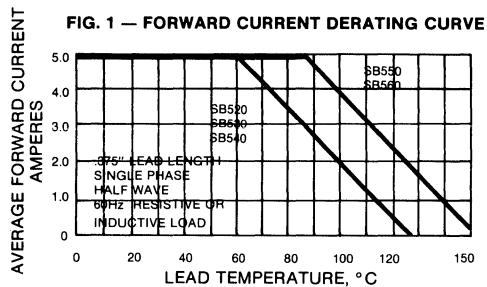
Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	SB520	SB530	SB540	SB550	SB560	SB580	UNITS
Maximum Recurrent Peak Reverse Voltage	50	30	40	50	60	80	V
Maximum RMS Voltage	14	21	28	35	42	56	V
Maximum DC Blocking Voltage	20	30	40	50	60	80	V
Maximum Average Forward Rectified Current, .375", 9.5mm, Lead Length See Fig. 1	5.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	250						A
Maximum Instantaneous Forward Voltage at 5.0A	.57			.70		.80	V
Maximum DC Reverse Current at DC Blocking Voltage TA = 25°C TA = 100°C	10 50						mA mA
Typical Thermal Resistance RθJA (Note 1)	30						°C/W
Typical Junction Capacitance (Note 2)	500			380			pF
Operating Temperature Range TJ	-65 to +125		-65 to +150				°C
Storage Temperature Range TSTG	-65 to +150						°C

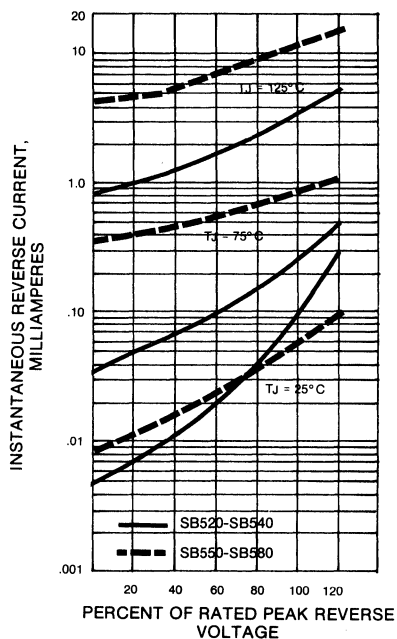
NOTES:

1. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5" (12.7mm) lead lengths.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

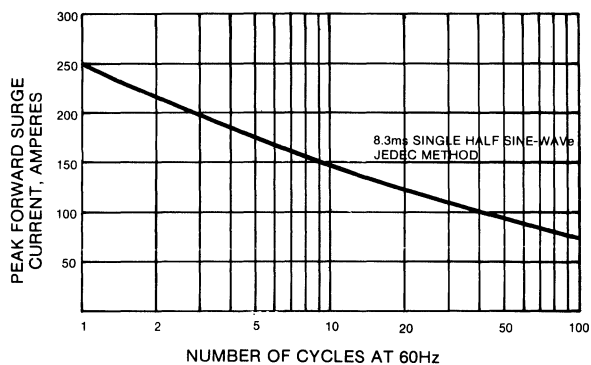
**RATING AND CHARACTERISTIC CURVES
SB520 THRU SB580**



**FIG. 3 — TYPICAL REVERSE
CHARACTERISTICS**



**FIG. 2 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**



**FIG. 4 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**

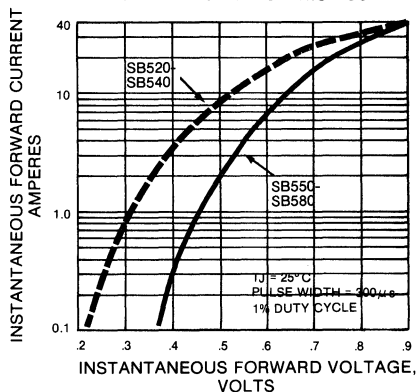
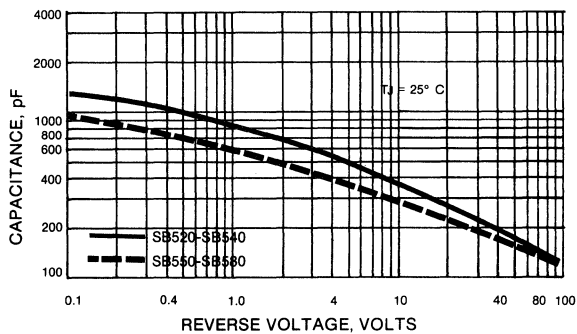


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



GI5823 THRU GI5825

HIGH CURRENT SCHOTTKY BARRIER RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Low cost
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: DO-201AD Molded Plastic
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode end
 Mounting Position: Any
 Weight: 0.04 ounces, 1.12 grams

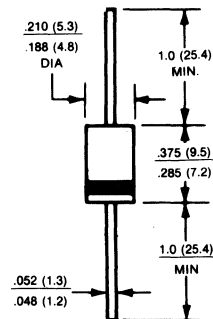
VOLTAGE RANGE

20, 30, 40 Volts

CURRENT

5.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	GI5823	GI5824	GI5825	UNITS
* Maximum Recurrent Peak Reverse Voltage to $T_L = 80^\circ\text{C}$	20	30	40	V
Maximum RMS Voltage	14	21	28	V
Maximum DC Blocking Voltage	20	30	40	V
* Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_L = 80^\circ\text{C}$	5.0			A
* Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L = 80^\circ\text{C}$	250			A
Maximum Instantaneous Forward Voltage at 3.0A	.42			V
Maximum Instantaneous Forward Voltage at 5.0A	.45			V
Maximum Instantaneous Forward Voltage at 15.7A	.625			V
* Maximum Average Reverse Current at Peak Reverse Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	10 75			mA mA
* Thermal Resistance $R_{\theta JA}$ (Note 1)	25			$^\circ\text{C/W}$
Typical Junction Capacitance (Note 2)	700			pF
* Storage and Operating Temperature Range, T_J	-65 to +125			$^\circ\text{C}$

NOTES:

1. Thermal Resistance Junction to Ambient Vertical PC Board Mounting, 0.5" Lead Length.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

* JEDEC registered value.

RATING CHARACTERISTIC CURVES
GI5823 THRU GI5825

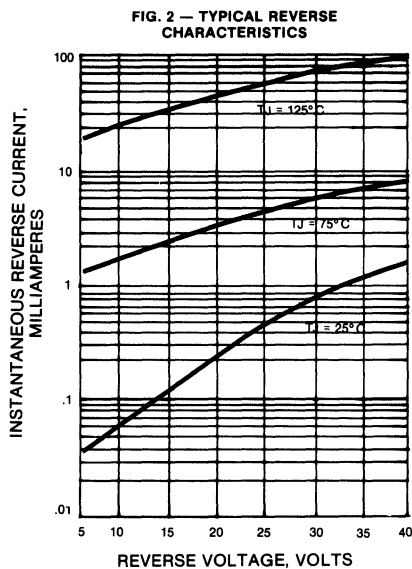
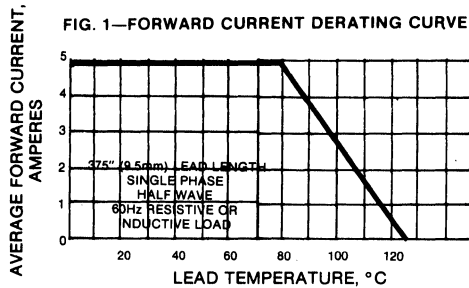


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

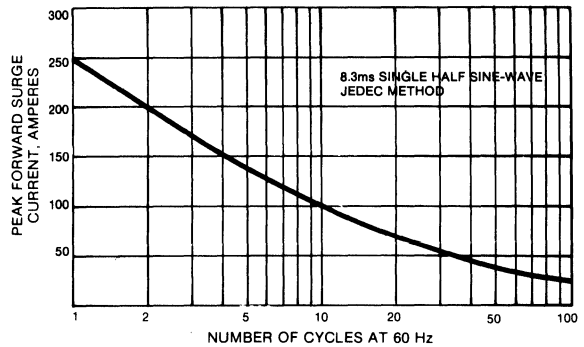
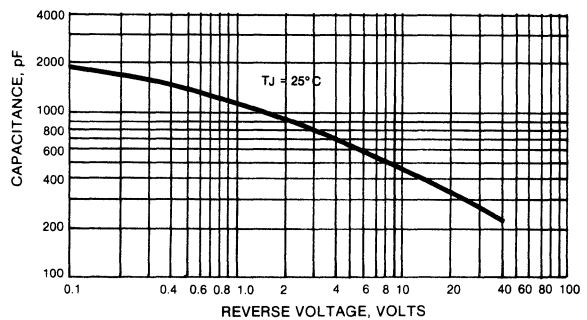
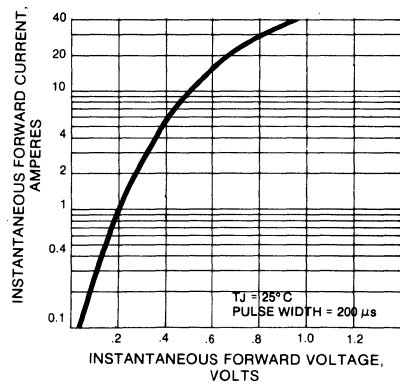


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

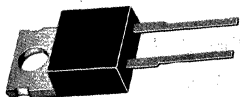


HIGH CURRENT SCHOTTKY RECTIFIERS 5 TO 40 AMPERES

SBS5-T SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal of silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: TO-220 molded plastic
 Terminals: Lead solderable per MIL-STD-202 Method 208
 Polarity: As marked
 Mounting position: Any
 Weight: .08 ounces, 2.24 grams

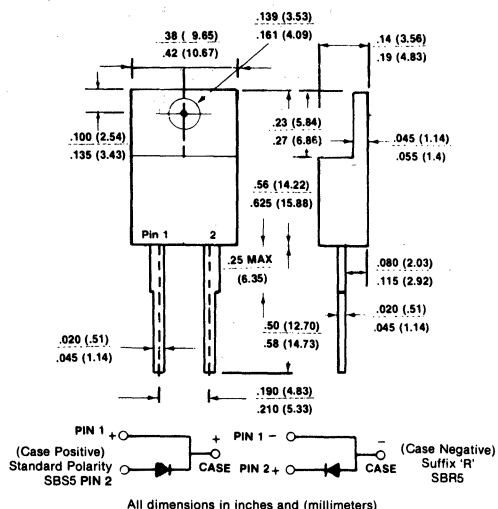
VOLTAGE RANGE

20 to 45 Volts

CURRENT

5.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	SBS520T	SBS530T	SBS535T	SBS540T	SBS545T	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	V
Maximum RMS Voltage	14	21	24.5	28	31.5	V
Maximum DC Blocking Voltage	20	30	35	40	45	V
Maximum Average Forward Rectified Current See Fig. 1	5.0					A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	100					A
Maximum Instantaneous Forward Voltage $I_F = 5.0A$, $T_c = 25^\circ C$ (Note 3)	.55					V
Maximum Average Reverse Current at $T_c = 25^\circ C$ Rated DC Blocking Voltage per element $T_c = 125^\circ C$	3.5 33					mA mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	3.0					$^\circ C/W$
Typical Junction Capacitance (Note 2)	600					pF
Operating Temperature Range T_c	-65 to +125					$^\circ C$
Storage Temperature Range T_{STG}	-65 to +125					$^\circ C$

NOTES:

1. Thermal Resistance Junction to CASE.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. 300 μs Pulse Width, 2% Duty Factor.

**RATING CHARACTERISTIC CURVES
SBS5-T SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

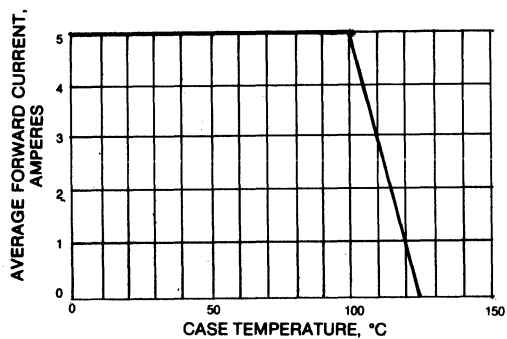


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

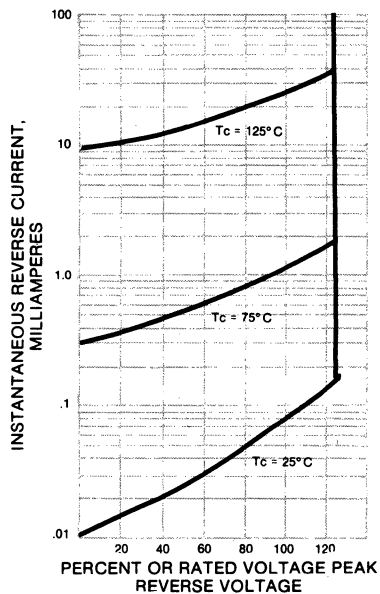


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

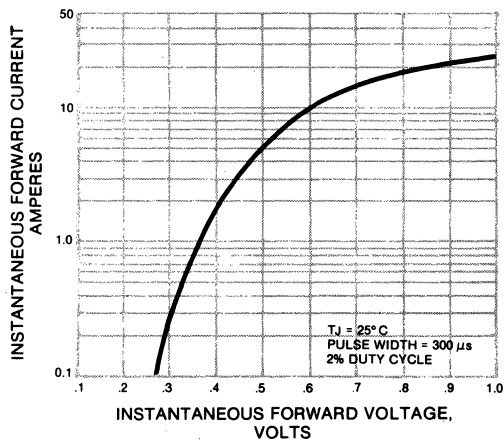
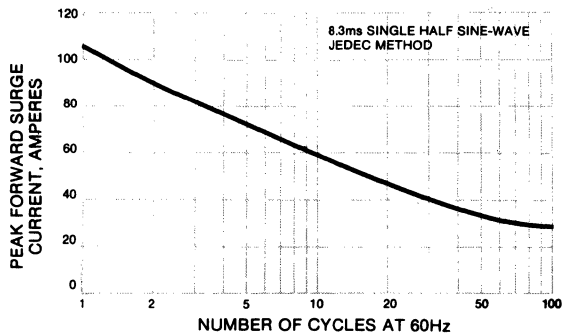
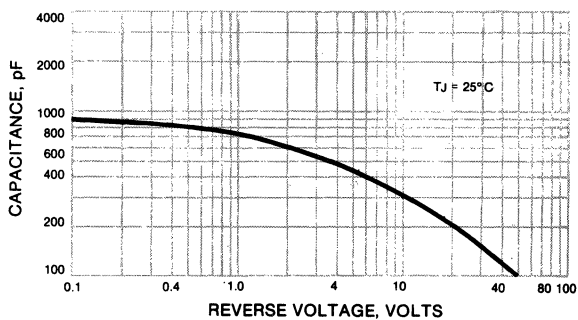


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBS8-T SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal of silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202.

Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

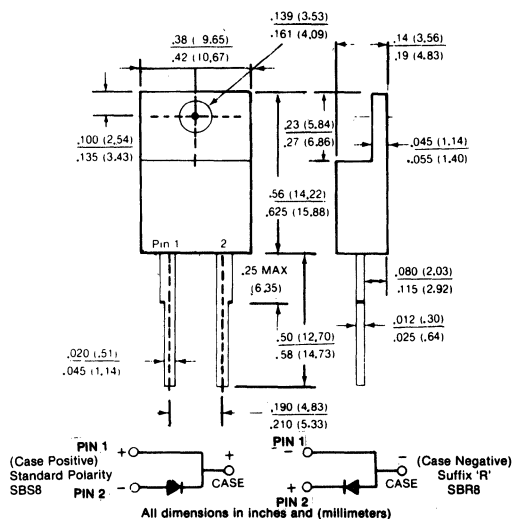
VOLTAGE RANGE

20 to 60 Volts

CURRENT

8.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SBS820T	SBS830T	SBS835T	SBS840T	SBS845T	SBS850T	SBS860T	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	50	60	V
Maximum RMS Voltage	14	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	20	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current See Fig. 1	8.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	250							A
Maximum Instantaneous Forward Voltage $I_f = 8.0A$, $T_c = 125^\circ C$ (Note 3) $I_f = 8.0A$, $T_c = 25^\circ C$						.65 .75		V
Maximum Average Reverse Current at $T_c = 25^\circ C$ Rated DC Blocking Voltage per element $T_c = 100^\circ C$	5 50							mA mA
Typical Thermal Resistance ROJC (Note 1)	3.0							°C/W
Typical Junction Capacitance (Note 2)	700					460		pF
Operating Temperature Range T_j	-65 to +125					-65 to +150		°C
Storage Temperature Range T_{STG}	-65 to +150							°C

NOTES:

1. Thermal Resistance Junction to CASE.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. 300 μs Pulse Width, 2% Duty Factor.

RATING CHARACTERISTIC CURVES
SBS8-T SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

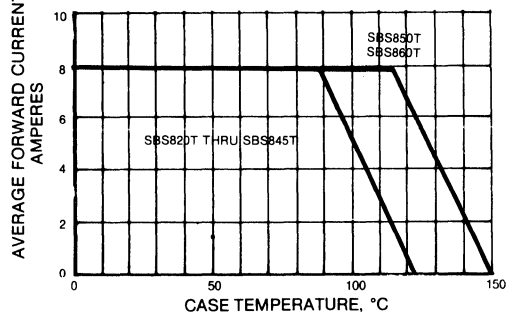


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

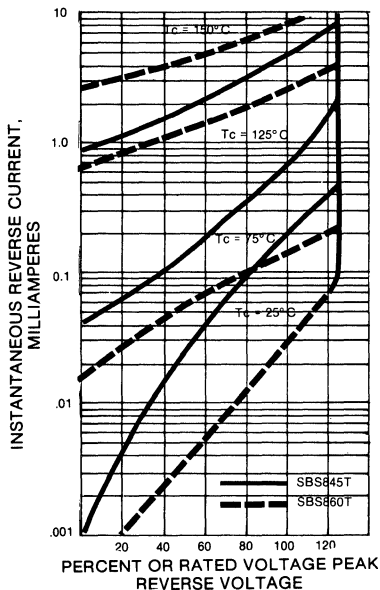


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

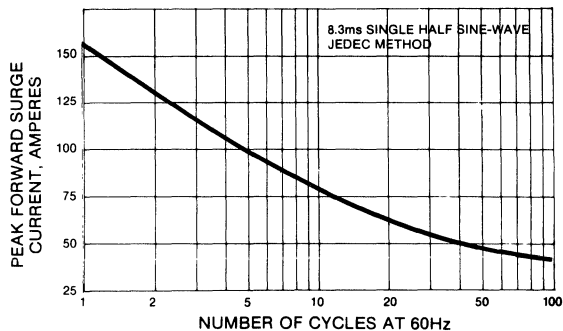


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

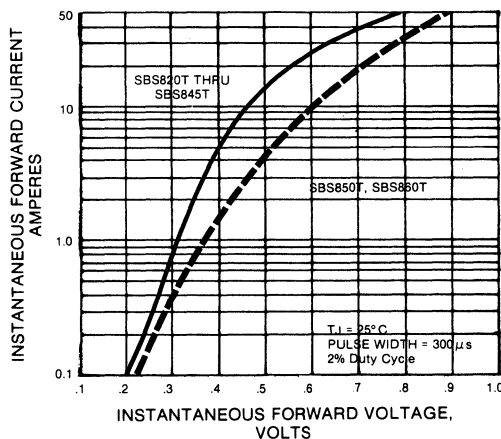
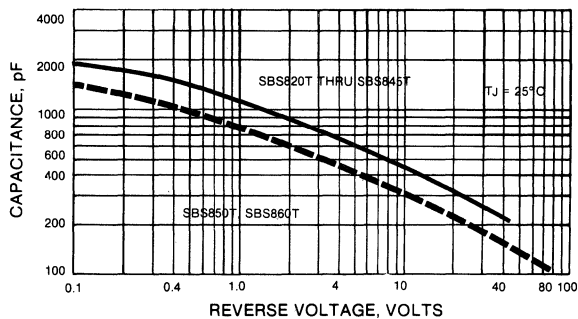


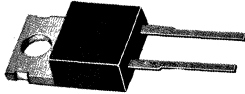
FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBS10-T SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier condition
- Low power loss high efficiency
- High current capability, low V_F
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202

Method 208

Polarity: As marked

Mounting Position: Any

Weight: .08 ounces, 2.24 grams

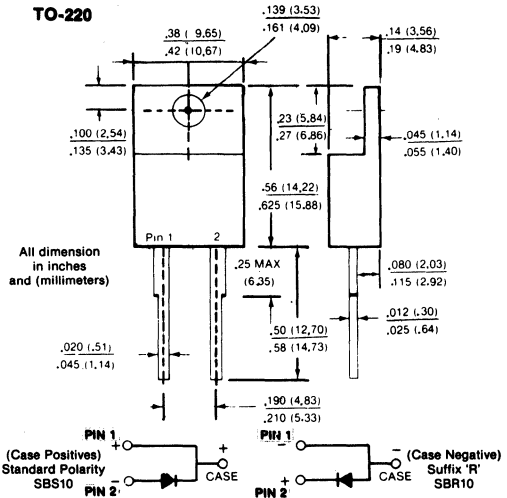
VOLTAGE RANGE

20 to 45 Volts

CURRENT

10.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SBS1020T	SBS1030T	SBS1035T	SBS1040T	SBS1045T	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	
MAXIMUM RMS Voltage	14	21	24.5	28	31.5	V
DC Blocking Voltage	20	30	35	40	45	
Maximum Average Forward Rectified Current at $T_c = 135^\circ\text{C}$	10					A
Peak Repetitive Forward Current, (Square Wave 20KHz) at $T_c = 135^\circ\text{C}$	20					A
Peak Forward Surge Current 8.3ms single half wave-wave superimposed on rated load (JEDEC method)	150					A
Peak Repetitive Reverse Surge Current ($2.0\mu\text{S}$, 1 KHz)	1.0					A
Voltage Rate of Change, dv/dt (rated V_R)	1000					V/ μS
Maximum Forward Voltage (Note 1) $I_F = 10\text{A}$, $T_c = 125^\circ\text{C}$ $I_F = 20\text{A}$, $T_c = 125^\circ\text{C}$ $I_F = 20\text{A}$, $T_c = 25^\circ\text{C}$	0.57 0.72 0.84					V
Maximum Reverse Current at Peak Reverse Voltage $T_c = 25^\circ\text{C}$ (Note 1) $T_c = 125^\circ\text{C}$	0.1 15					mA
Maximum Thermal Resistance $R_{\theta JC}$, Junction to Case	2.0					$^\circ\text{C/W}$
Maximum Operating Junction Temperature, T_c	-65 to +150					$^\circ\text{C}$
Maximum Storage Temperature, T_{STG}	-65 to +175					$^\circ\text{C}$

NOTE 1. Pulse Test Pulse Width 300 μs , Duty Cycle 2%.

RATING AND CHARACTERISTIC CURVES
SBS10-T SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

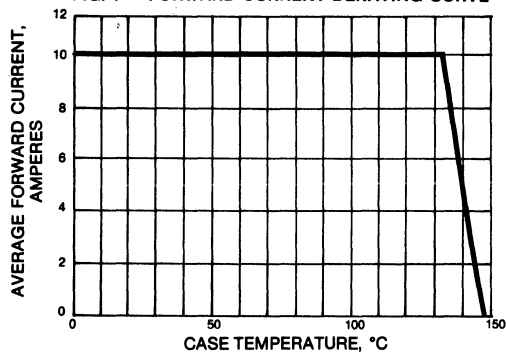


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

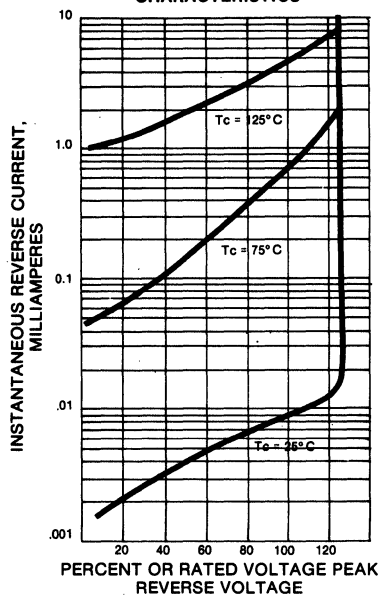


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

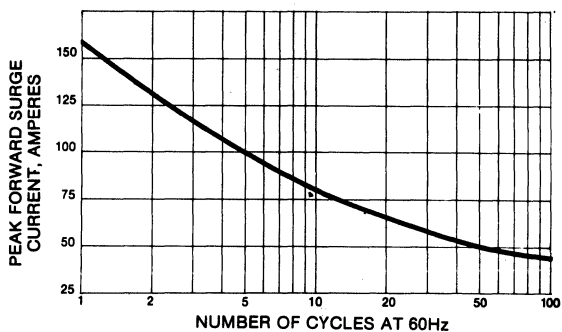


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

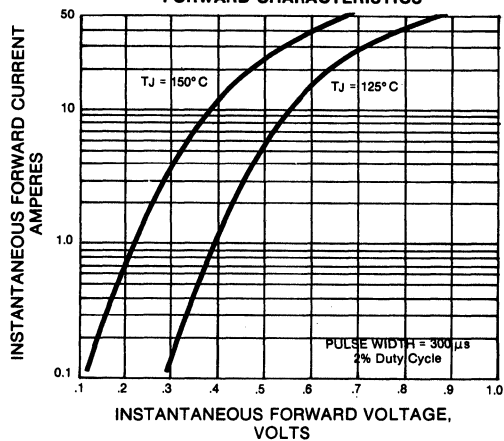
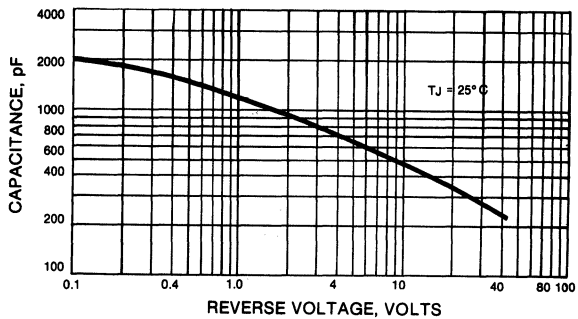


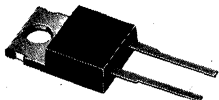
FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBS1620T THRU SBS1645T

SCHOTTKY RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Plastic Material used carries Underwriters Laboratory recognition
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD 202.

Method 208

Polarity: As marked

Mounting position: Any

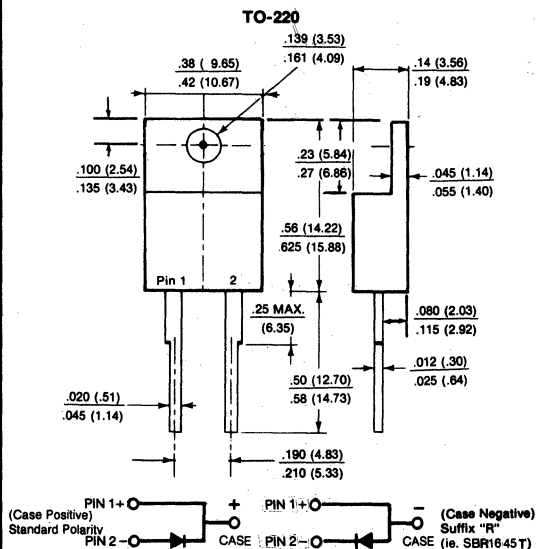
Weight: .08 ounces, 2.24 grams

VOLTAGE RANGE

20 to 45 Volts

CURRENT

16 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SBS1620T	SBS1635T	SBS1640T	SBS1645T	UNITS
Maximum Recurrent Peak Reverse Voltage	20	35	40	45	V
Working Peak Reverse Voltage	20	35	40	45	V
Maximum DC Blocking Voltage	20	35	40	45	V
Maximum Average Forward Rectified Current at $T_c = 115^\circ\text{C}$	16				A
Peak Repetitive Forward Current (Square Wave 20KHz, 50% Duty Cycle) at $T_c = 115^\circ\text{C}$	32				A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	250				A
Voltage Rate of Change, dv/dt (rated V_R)	1000				V/ μS
Maximum Forward Voltage (Note 1) $I_F = 16\text{A}$, $T_c = 125^\circ\text{C}$ $I_F = 16\text{A}$, $T_c = 25^\circ\text{C}$	0.55 0.65				V
Maximum Reverse Current at Peak Reverse Voltage $T_c = 25^\circ\text{C}$ (Note 1) $T_c = 125^\circ\text{C}$	10 50				mA
Maximum Thermal Resistance $R_{\theta jc}$ Junction to Case	2.0				$^\circ\text{C/W}$
Typical Junction Capacitance, $V_R = 5\text{V}$	2000				pF
Maximum Operation Junction Temperature, T_J	-65 to +150				$^\circ\text{C}$
Maximum Storage Temperature, T_{stg}	-65 to +150				$^\circ\text{C}$

NOTE:

1. Pulse Test Pulse Width 300 μS , Duty Cycle 2%.

RATING CHARACTERISTIC CURVES
SBS1620T thru SBS1645T

Fig. 1—FORWARD CURRENT DERATING CURVE

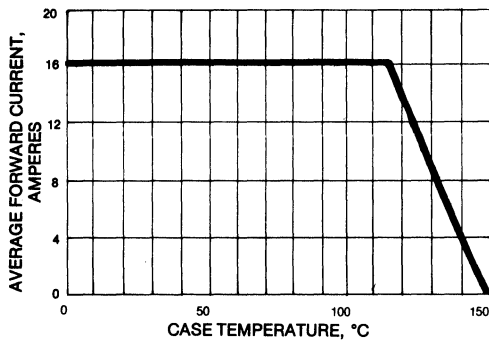


Fig. 2—TYPICAL REVERSE CHARACTERISTICS

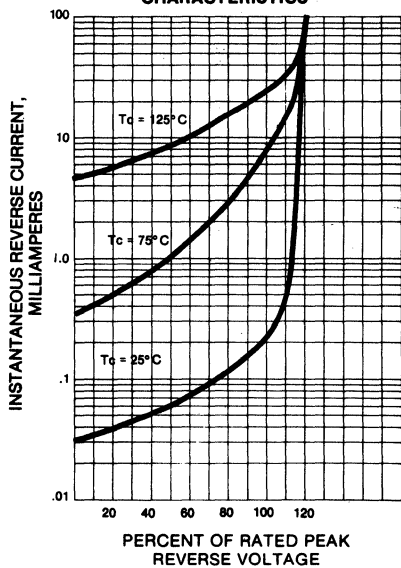


Fig. 3—MAXIMUM NON-REPETITIVE SURGE CURRENT

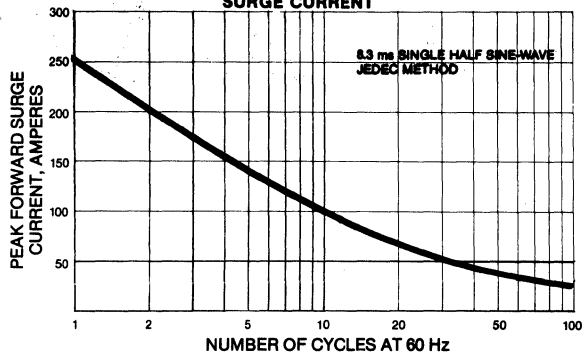


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

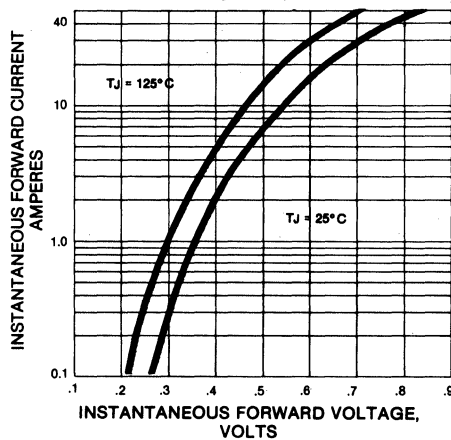
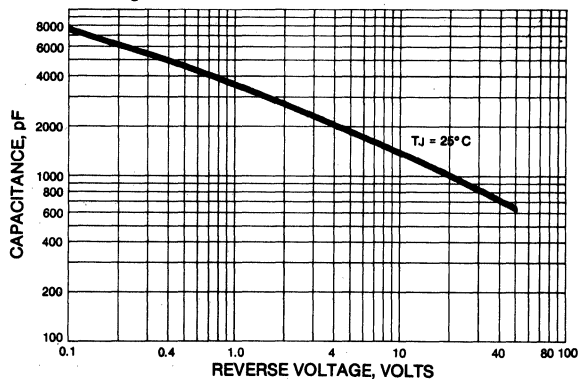


Fig. 5—TYPICAL JUNCTION CAPACITANCE



SBP10-T SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing General
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Dual rectifier construction, positive center-tap

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD 202 Method 208

Polarity: As marked

Mounting position: Any

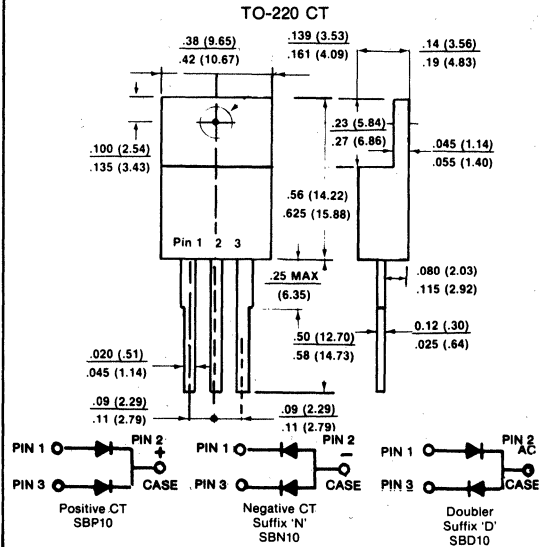
Weight: .08 ounces, 2.24 grams

VOLTAGE RANGE

20 to 45 Volts

CURRENT

10 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SBP 1020T	SBP 1030T	SBP 1035T	SBP 1040T	SBP 1045T	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	V
Maximum RMS Voltage	14	21	24.5	28	31.5	V
Maximum DC Blocking Voltage	20	30	35	40	45	V
Maximum Average Forward Rectified Current See Figure 1	10.0					A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	100					A
Maximum Instantaneous Forward Voltage Per Leg $I_F = 5.0A$, $T_c = 25^\circ C$ (Note 3)	.55					V
Maximum Average Reverse Current at $T_c = 25^\circ C$ Rated DC Blocking Voltage per element	3.5					mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	3.0					$^\circ C/W$
Typical Junction Capacitance (Note 2)	650					pF
Operating Temperature Range, T_c	-65 to +125					$^\circ C$
Storage Temperature Range, T_{STG}	-65 to +150					$^\circ C$

NOTES:

1. Thermal Resistance Junction to CASE.

2. Measured at 1MHz and applied reverse voltage of 4.0 volts.

3. 300 μ s Pulse Width, 2% Duty Factor.

**RATING AND CHARACTERISTIC CURVES
SBP10-T SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

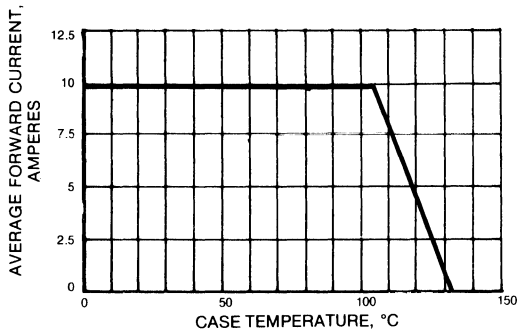


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

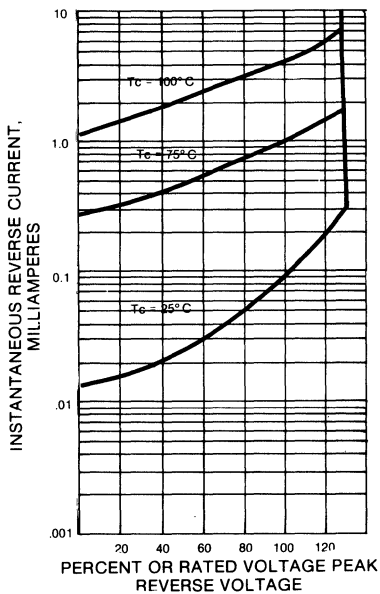


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

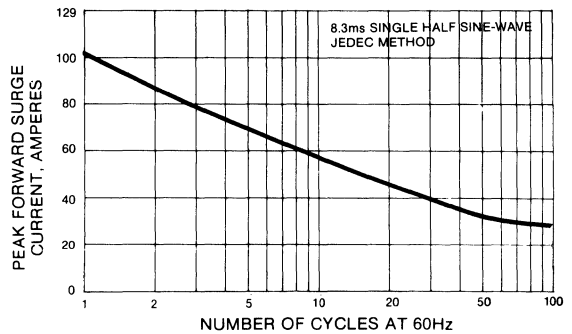


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

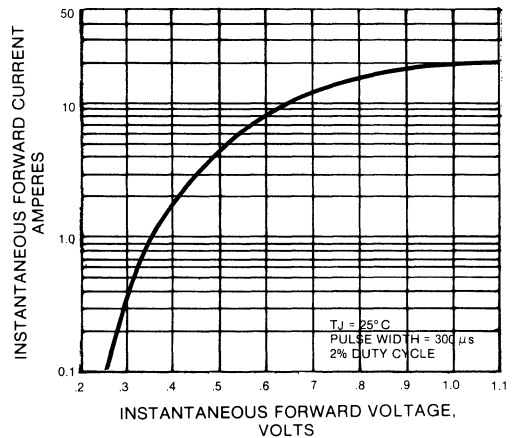
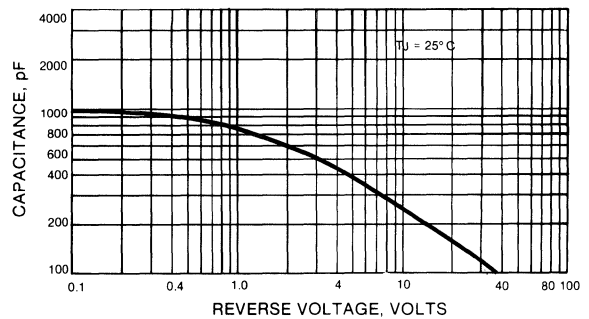


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBP16-T SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O.
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

MECHANICAL DATA

Case: TO-220 molded plastic
 Terminals: Lead solderable per MIL-STD-202, Method 208
 Polarity: As marked
 Mounting Position: Any
 Weight: .08 ounces, 2.24 grams

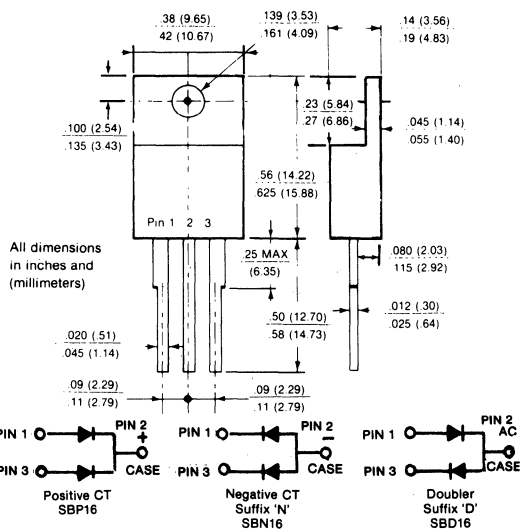
VOLTAGE RANGE

20 to 60 Volts

CURRENT

16 Amperes

TO-220 CT



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	SBP 1620T	SBP 1630T	SBP 1635T	SBP 1640T	SBP 1645T	SBP 1650T	SBP 1660T	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	50	60	V
Maximum RMS Voltage	14	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	20	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current See Fig. 1	16.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	250							A
Maximum Instantaneous Forward Voltage Per Leg $I_F = 8.0A$, $T_C = 125^{\circ}C$ (Note 3) $I_F = 8.0A$, $T_C = 25^{\circ}C$	.55 .65					.65 .75		V V
Maximum Average Reverse Current at $T_C = 25^{\circ}C$ Rated DC Blocking Voltage per element $T_C = 100^{\circ}C$	5 50							mA mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	3.0							$^{\circ}C/W$
Typical Junction Capacitance (Note 2)	700					460		pF
Operating Temperature Range, T_C	-65 to +125					-65 to +150		$^{\circ}C$
Storage Temperature Range, T_{STG}	-65 to +150							$^{\circ}C$

NOTES:

1. Thermal Resistance Junction to CASE.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. 300 μs Pulse Width, 2% Duty Factor.

**RATING AND CHARACTERISTIC CURVES
SBP16-T SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

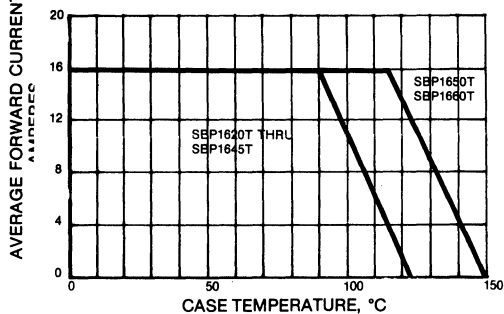


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

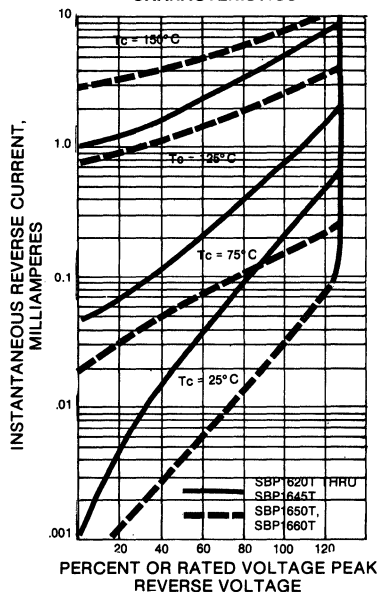


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

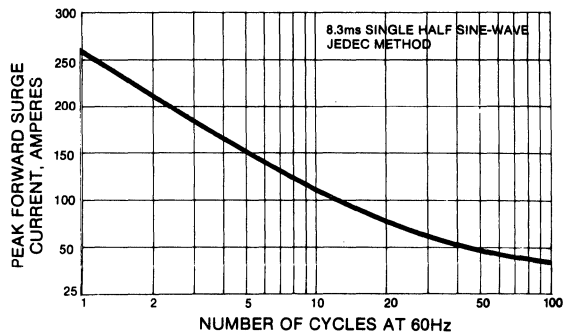


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

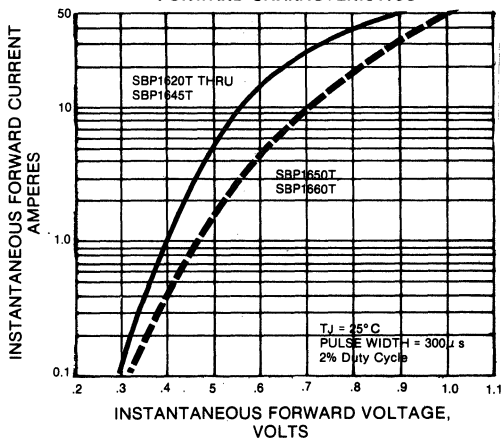
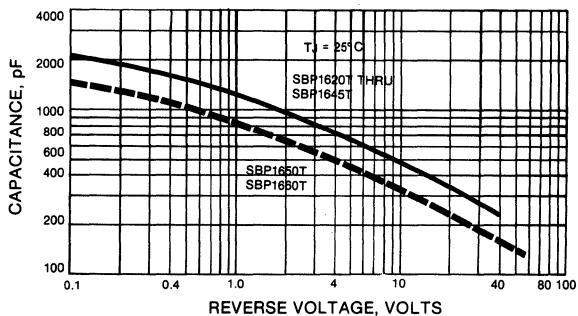


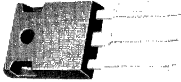
FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SLP20-P SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: TO-3P

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting Position: Any

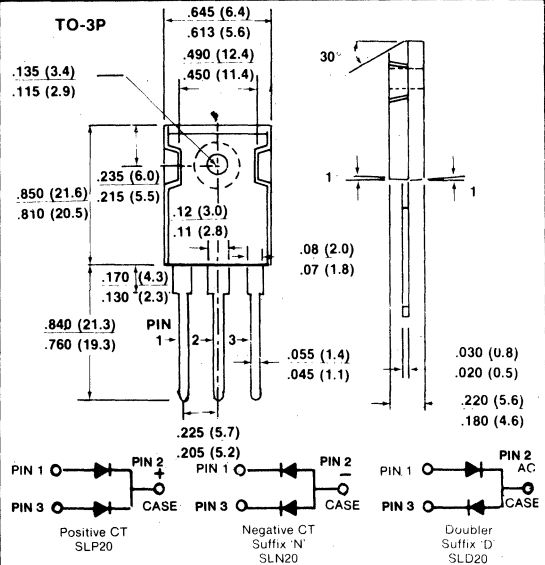
Weight: .47 ounces, 13.2 ounces

VOLTAGE RANGE

20 to 45 Volts

CURRENT

20 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SLP 2020P	SLP 2030P	SLP 2035P	SLP 2040P	SLP 2045P	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	V
Maximum RMS Voltage	14	21	24.5	28	31.5	V
Maximum DC Blocking Voltage	20	30	35	40	45	V
Maximum Average Forward Rectified Current See Fig. 1	20					A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	120					A
Maximum Instantaneous Forward Voltage Per Leg $I_f = 10.0A$, $T_c = 25^\circ C$ (Note 3)	.55					V
Maximum Average Reverse Current at $T_c = 25^\circ C$ Rated DC Blocking Voltage per element	15					mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	1.5					$^\circ C/W$
Typical Junction Capacitance (Note 2)	1700					pF
Operating Temperature Range T_c	-65 to +125					$^\circ C$
Storage Temperature Range, T_{stg}	-65 to +125					$^\circ C$

NOTES:

1. Thermal Resistance to CASE.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. 300 μs Pulse Width, 2% Duty Factor.

RATING AND CHARACTERISTIC CURVES
SLP20-P

FIG. 1 — FORWARD CURRENT DERATING CURVE

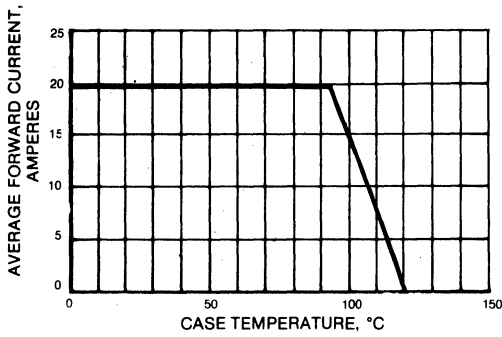


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

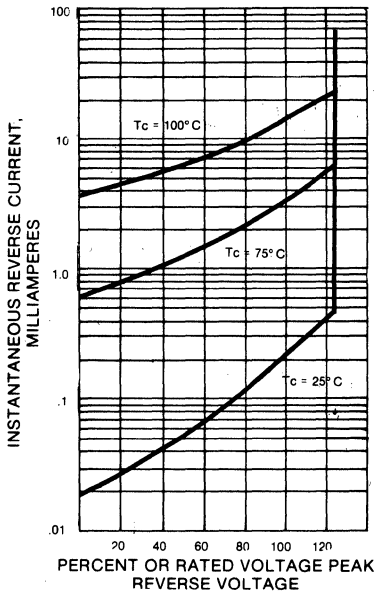


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

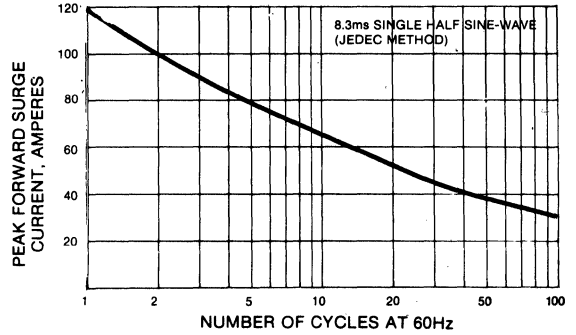


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

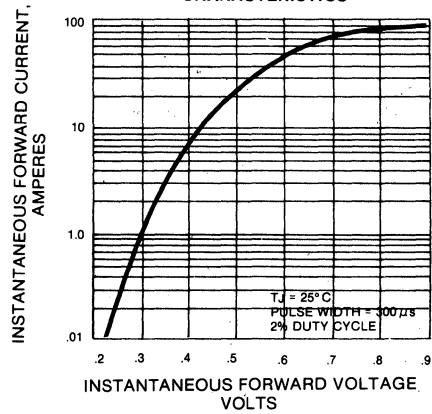
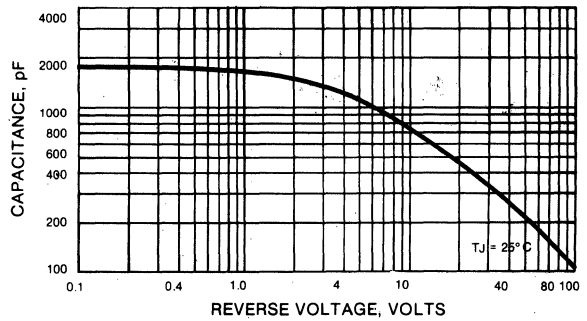
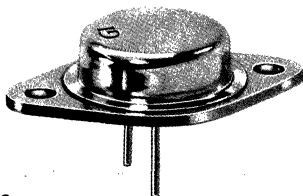


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SCHOTTKY RECTIFIER

GENERAL INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Convenient, mechanically rugged, hermetically sealed package
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: TO-3

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting Position: Any

Weight: .47 ounces, 13.2 grams

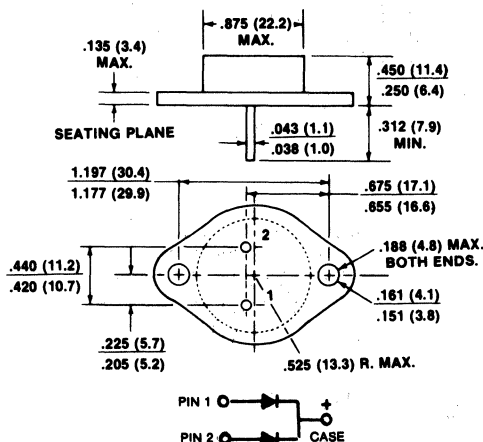
VOLTAGE RANGE

45 Volts

CURRENT

30 Amperes

TO-3



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

**Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.**

	SD241	UNITS
Maximum Recurrent Peak Reverse Voltage at $T_c = 25^\circ\text{C}$	45	V
Maximum DC Blocking Voltage at $T_c = 25^\circ\text{C}$	45	V
Maximum Average Forward Rectified Current at $T_c = 95^\circ\text{C}$	30	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	400	A
Peak Repetitive Reverse Surge Current at 2.0 μs , 1 KHz	2.0	A
Maximum Instantaneous Forward Voltage Pulse Width = 300 μs , Duty Cycle = 1% at $I_F = 10\text{A}$, $T_c = 125^\circ\text{C}$ $I_F = 20\text{A}$, $T_c = 125^\circ\text{C}$	.47 .60	V
Maximum Instantaneous Reverse Current Pulse Width = 400 μs , Duty Cycle = 1% at 35V	25 100	mA mA
Maximum Voltage Rate of Change at 35V, dv/dt	1000	V/ μs
Package Thermal Resistance $R_{\theta JC}$ (Note 1)	1.4	$^\circ\text{C/W}$
Maximum Junction Capacitance (Note 2)	2000	pF
Operating Temperature Range T_c	-65 to +150	$^\circ\text{C}$
Storage Temperature Range T_{STG}	-65 to +175	$^\circ\text{C}$

NOTES:

1. Thermal Resistance Junction to Case.

2. Measured at 1 MHz and applied reverse voltage of 5.0 volts.

RATING CHARACTERISTIC CURVES **SD241**

FIG. 1 — FORWARD CURRENT DERATING CURVE

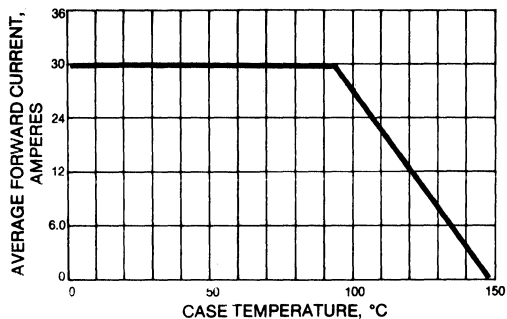


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

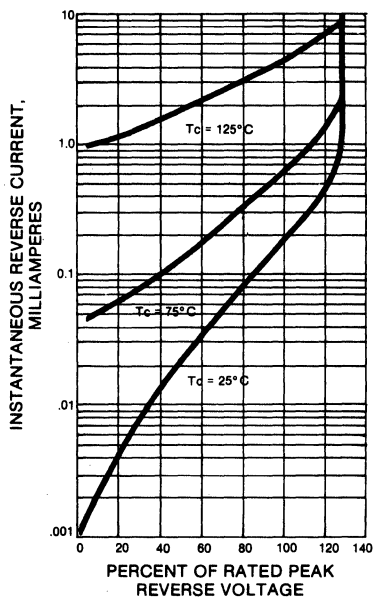


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

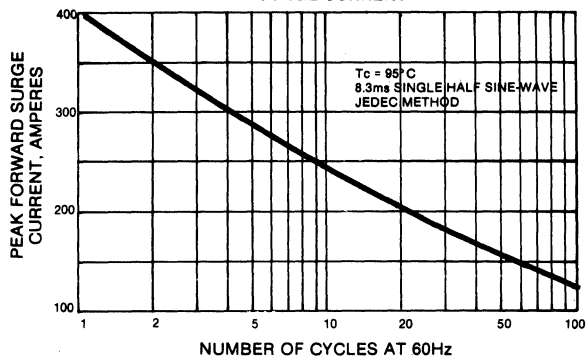


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

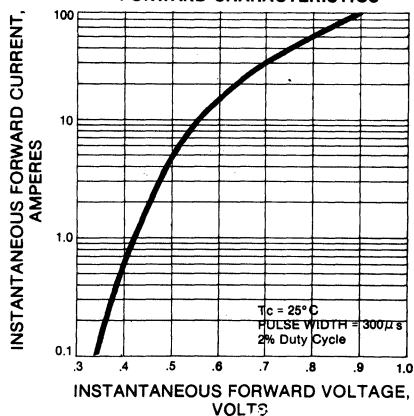
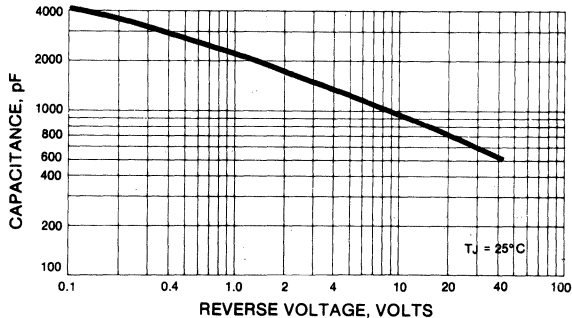


FIG. 5 — TYPICAL JUNCTION CAPACITANCE





FEATURES

- Dual rectifier construction, positive center-tap
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction using a Epitaxial construction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 300°C, .17", 4.3mm from case for 10 seconds

MECHANICAL DATA

Case: TO-3P

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .47 ounces, 13.2 grams

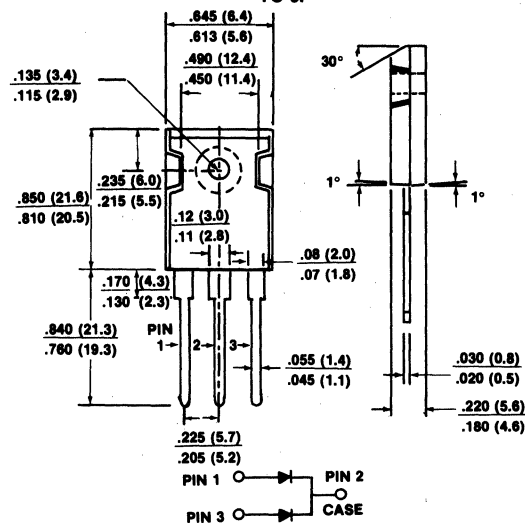
VOLTAGE RANGE

45 Volts

CURRENT

30 Amperes

TO-3P



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SD241P	UNITS
Maximum Recurrent Peak Reverse Voltage at $T_c = 25^\circ\text{C}$	45	V
Maximum Blocking Voltage at $T_c = 25^\circ\text{C}$	45	V
Maximum Average Forward Rectified Current at $T_c = 95^\circ\text{C}$	30	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	400	A
Peak Repetitive Reverse Surge Current at 2.0 μs , 1 KHz	2.0	A
Maximum Instantaneous Forward Voltage Pulse Width = 300 μs , Duty Cycle = 1% at $I_f = 10\text{A}$, $T_c = 125^\circ\text{C}$ $I_f = 20\text{A}$, $T_c = 125^\circ\text{C}$	.47 .60	V
Maximum Instantaneous Reverse Current Pulse Width = 400 μs , Duty Cycle = 1% at 35V	25 100	mA mA
Maximum Voltage Rate of Change at 35V, dv/dt	1900	V/ μs
Package Thermal Resistance $R_{\theta JC}$ (Note 1)	1.4	$^\circ\text{C/W}$
Maximum Junction Capacitance (Note 2)	2000	pF
Operating Temperature T_c	-65 to +150	$^\circ\text{C}$
Storage Temperature Range T_{stg}	-65 to +175	$^\circ\text{C}$

NOTES:

1. Thermal Resistance Junction to Case.

2. Measured at 1MHz and applied reverse voltage of 5.0 volts.

**RATING CHARACTERISTIC CURVES
SD241P**

FIG. 1—FORWARD CURRENT DERATING CURVE

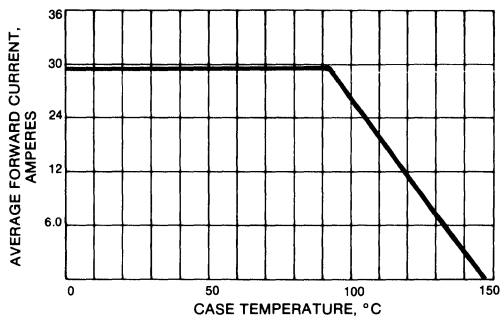


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

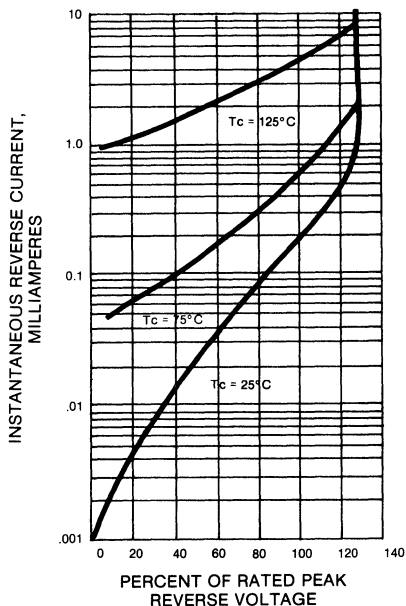


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

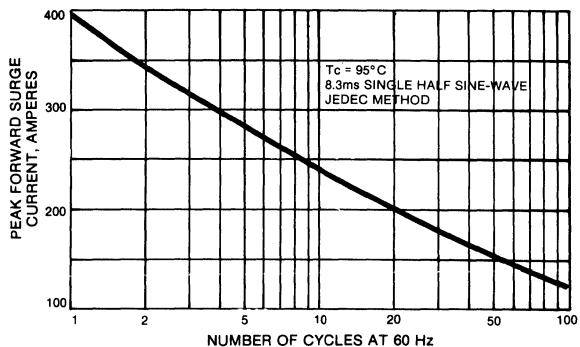


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

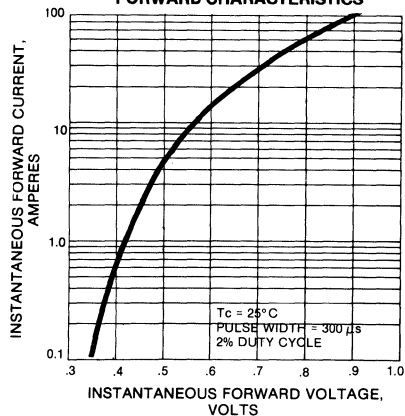
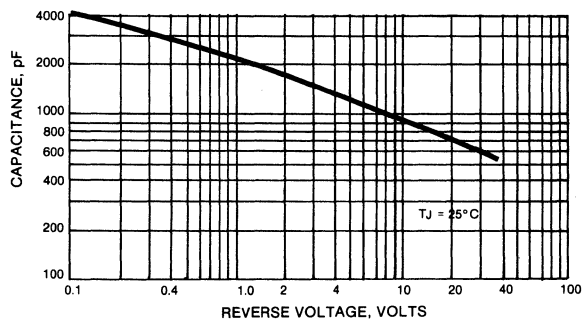


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SLP30-P SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: TO-3P

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting Position: Any

Weight: .47 ounces, 13.2 ounces

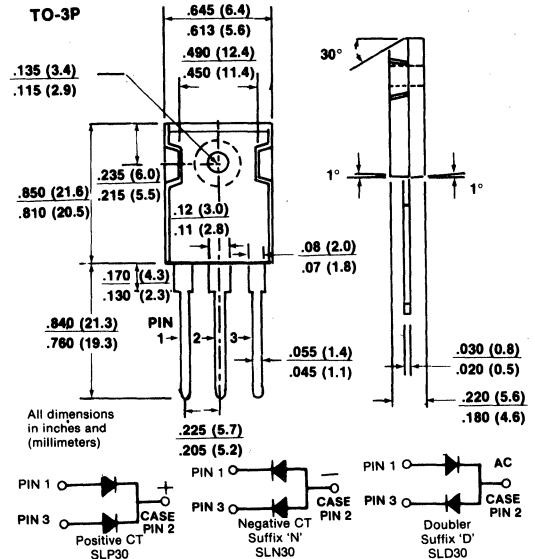
VOLTAGE RANGE

20 to 45 Volts

CURRENT

30 Amperes

TO-3P



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SLP 3020P	SLP 3030P	SLP 3035P	SLP 3040P	SLP 3045P	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	V
Maximum RMS Voltage	14	21	24.5	28	31.5	V
Maximum DC Blocking Voltage	20	30	35	40	45	V
Maximum Average Forward Rectified Current See Fig. 1	30					A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	250					A
Maximum Instantaneous Forward Voltage Per Leg $I_F = 15A$, $T_c = 25^\circ C$ (Note 3)	.55					V
Maximum Average Reverse Current at $T_c = 25^\circ C$ Rated DC Blocking Voltage per element	20					mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	1.2					$^\circ C/W$
Typical Junction Capacitance (Note 2)	1700					pF
Operating Temperature Range, T_c	-65 to +125					$^\circ C$
Storage Temperature Range, T_{STG}	-65 to +125					$^\circ C$

NOTES:

1. Thermal Resistance Junction to CASE.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. 300μs Pulse Width, 2% Duty Factor.

RATING AND CHARACTERISTIC CURVES
SLP30-P

FIG. 1 — FORWARD CURRENT DERATING CURVE

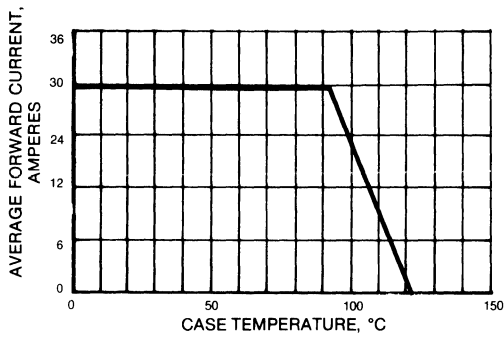


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

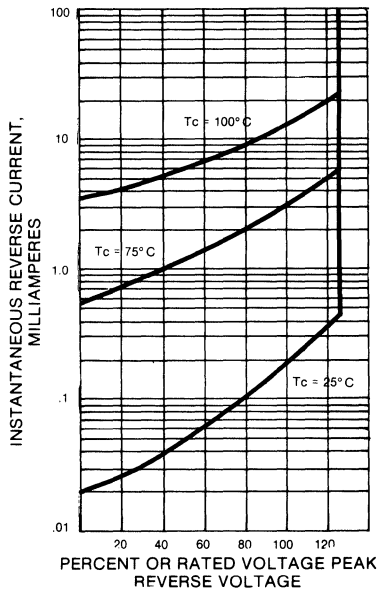


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

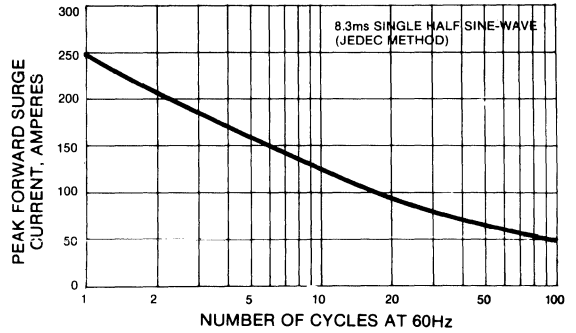


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

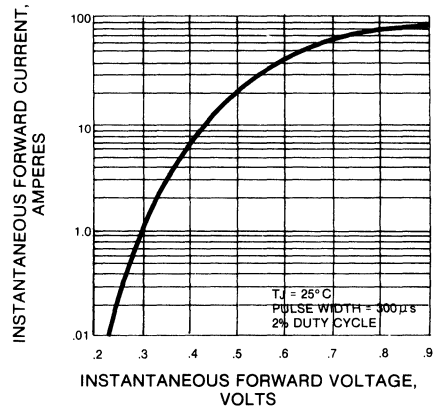
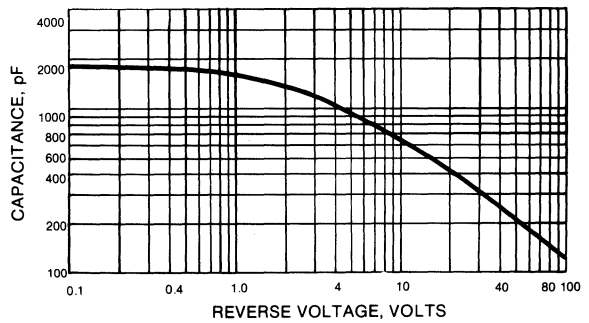


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBP30-P SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

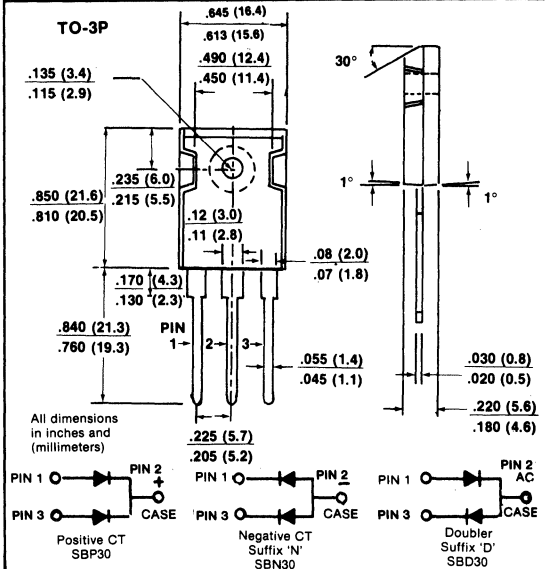
Case: TO-3P
Terminals: Lead solderable per MIL-STD-202, Method 208
Polarity: As marked
Mounting Position: Any
Weight: .47 ounces, 13.2 ounces

VOLTAGE RANGE

20 to 60 Volts

CURRENT

30 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SBP3020P	SBP3030P	SBP3035P	SBP3040P	SBP3045P	SBP3050P	SBP3060P	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	50	60	V
Maximum RMS Voltage	14	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	20	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current See Fig. 1	30							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300							A
Maximum Instantaneous Forward Voltage Per Leg $I_F = 15A$, $T_c = 125^\circ C$ (Note 3) $I_F = 15A$, $T_c = 25^\circ C$						.55 .65	.65 .75	V V
Maximum Average Reverse Current at $T_c = 25^\circ C$; Rated DC Blocking Voltage per element $T_c = 100^\circ C$	10 100							mA mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	1.4							$^\circ C/W$
Typical Junction Capacitance (Note 2)	1400	1400			700			pF
Operating Temperature Range T_c	-65 to +125					-65 to +150		$^\circ C$
Storage Temperature Range, T_{STG}	-65 to +150							$^\circ C$

NOTES:

1. Thermal Resistance Junction to CASE.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. 300 μs Pulse Width, 2% Duty Factor.

**RATING AND CHARACTERISTIC CURVES
SBP30-P SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

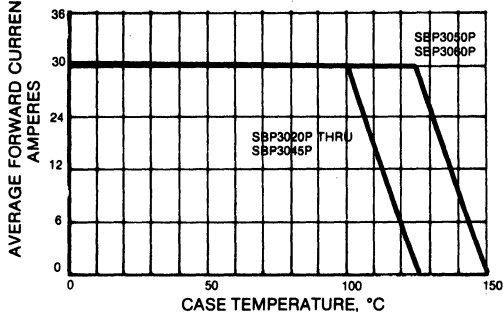


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

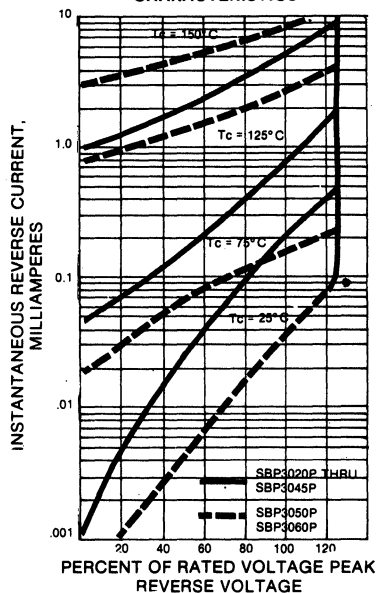


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

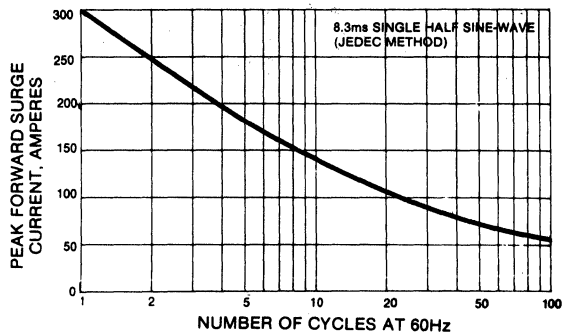


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

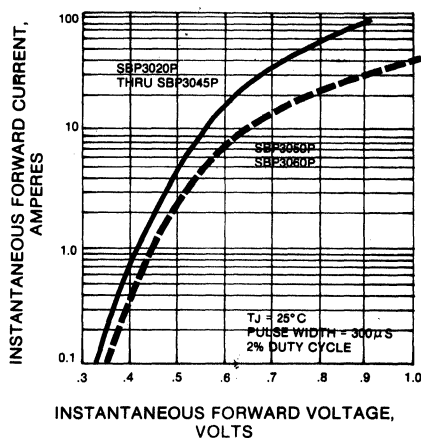
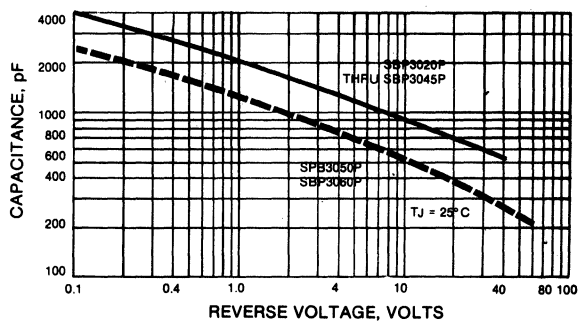


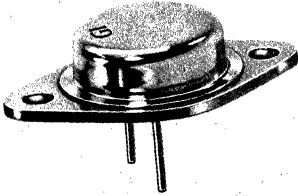
FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBP30-M SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Convenient, mechanically rugged, hermetically sealed package
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_f
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

MECHANICAL DATA

Case: TO-3

Terminals: Lead solderable per MIL-STD-202,
Method 208

Polarity: As marked

Mounting Position: Any

Weight: .47 ounces, 13.2 grams

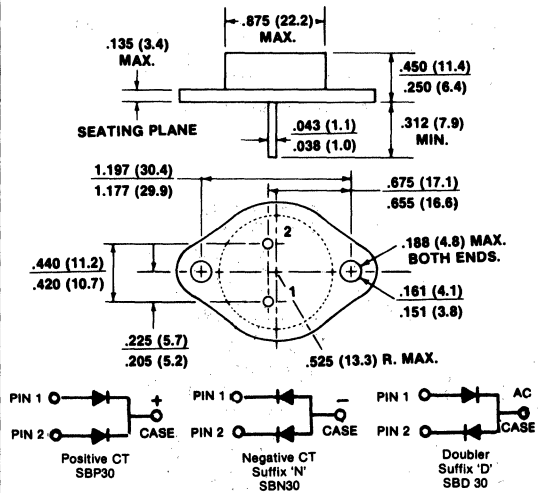
VOLTAGE RANGE

20 to 60 Volts

CURRENT

30 Amperes

TO-3



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. For capacitive load, derate current by 20%.
Single phase, half wave, 60Hz, resistive or inductive load.

	SBP 3020M	SBP 3030M	SBP 3035M	SBP 3040M	SBP 3045M	SBP 3050M	SBP 3060M	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	50	60	V
Maximum RMS Voltage	14	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	20	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current See Fig. 1	30							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300							A
Maximum Instantaneous Forward Voltage Per Leg $I_F = 15A$, $T_c = 125^{\circ}C$ (Note 3) $I_F = 15A$, $T_c = 25^{\circ}C$	.55 .65					.65 .75		V V
Maximum Average Reverse Current at Rated DC Blocking Voltage per element $T_c = 25^{\circ}C$ $T_c = 100^{\circ}C$	10 100							mA mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	1.4							$^{\circ}C/W$
Typical Junction Capacitance (Note 2)	1400					700		pF
Operating Temperature Range, T_c	-65 to +125					-65 to +150		$^{\circ}C$
Storage Temperature Range T_{STG}	-65 to +150							$^{\circ}C$

NOTES:

1. Thermal Resistance Junction to CASE.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. 300μs Pulse Width, 2% Duty Factor.

**RATING AND CHARACTERISTIC CURVES
SBP30-M SERIES**

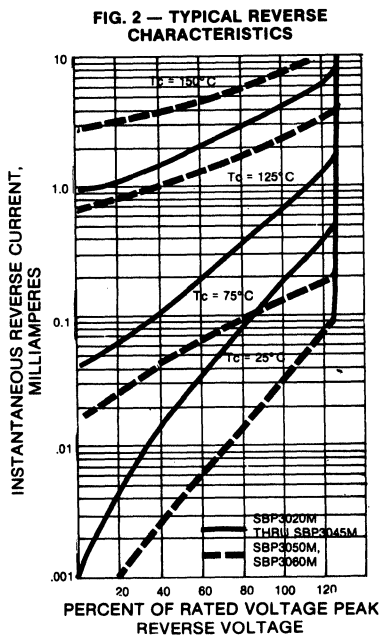
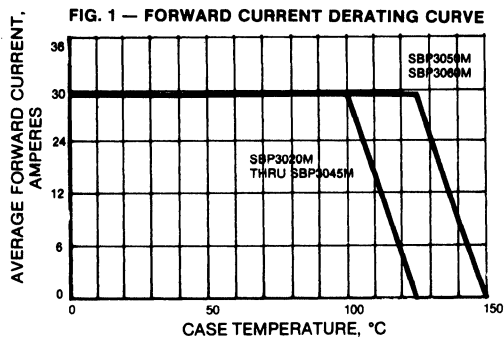


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

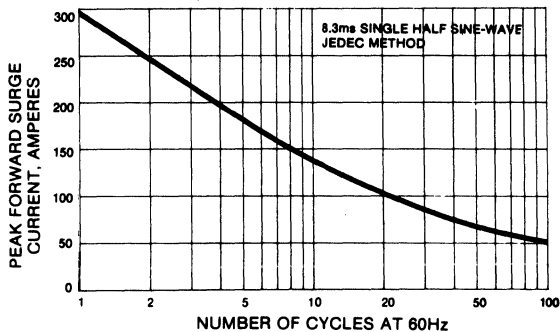


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

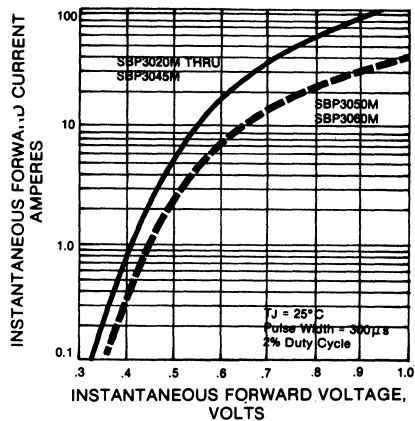
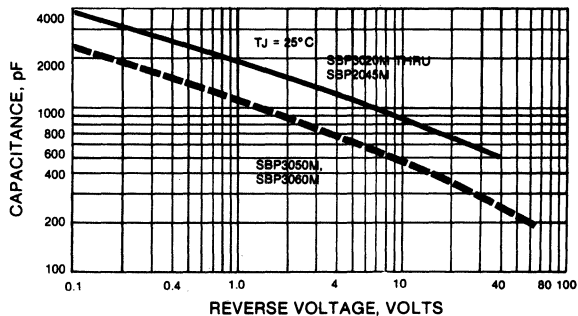


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SBP40-P SERIES

SCHOTTKY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capability
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

Case: TO-3P

Terminals: Leads solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting Position: Any

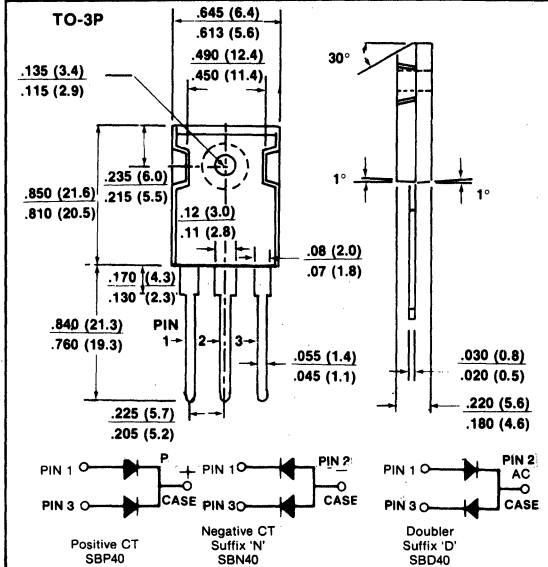
Weight: .47 ounces, 13.2 ounces

VOLTAGE RANGE

20 to 60 Volts

CURRENT

40 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SBP 4020P	SBP 4030P	SBP 4035P	SBP 4040P	SBP 4045P	SBP 4050P	SBP 4060P	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	35	40	45	50	60	V
Maximum RMS Voltage	14	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	20	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current See Fig. 1	40							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	300							A
Maximum Instantaneous Forward Voltage Per Leg $I_F = 20A$, $T_c = 125^\circ C$ (Note 3) $I_F = 20A$, $T_c = 25^\circ C$							.70 .80	V V
Maximum Average Reverse Current at $T_c = 25^\circ C$ Rated DC Blocking Voltage per element $T_c = 100^\circ C$	10 100							mA mA
Typical Thermal Resistance $R_{\theta JC}$ (Note 1)	1.4							°C/W
Typical Junction Capacitance (Note 2)	1400						700	pF
Operating Temperature Range T_c	-65 to +125						-65 to +150	°C
Storage Temperature Range, T_{STG}	-65 to +150							°C

NOTES:

1. Thermal Resistance Junction to CASE.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. 300μs Pulse Width, 2% Duty Factor.

**RATING AND CHARACTERISTIC CURVES
SBP40-P SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

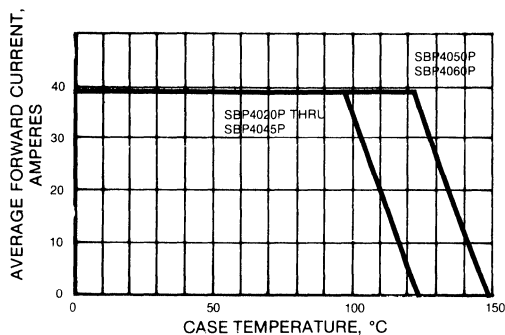


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

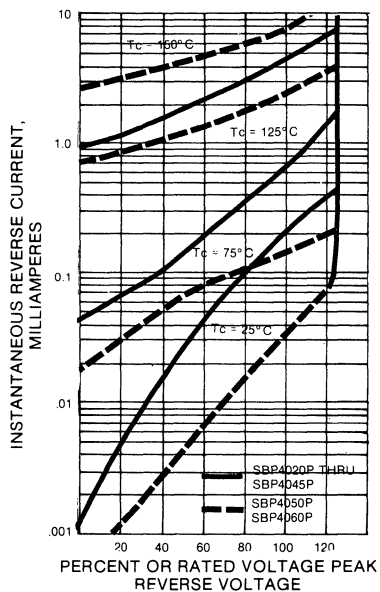


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

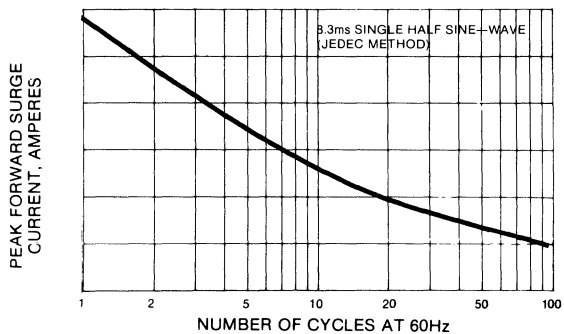


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

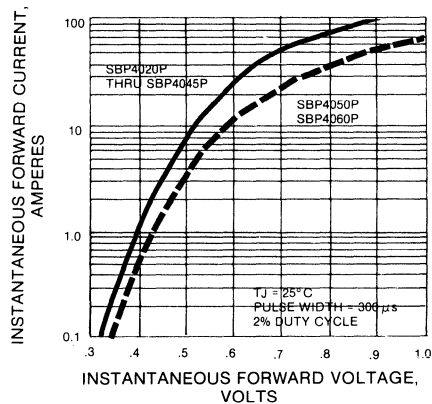
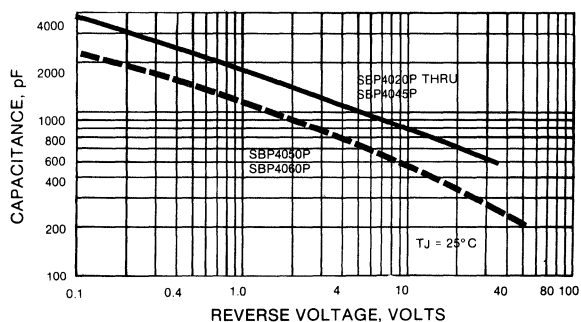


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



PLASTIC SCHOTTKY RECTIFIER BRIDGES 1 AMPERE

SDF SERIES

MINIATURE SINGLE-PHASE SCHOTTKY BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- Plastic material used carries Underwriters Laboratory recognition.
- Ideal for printed circuit board
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High surge capability
- Very low forward voltage drop
- Epitaxial construction
- Exceeds environmental standards of MIL-STD-19500

MECHANICAL

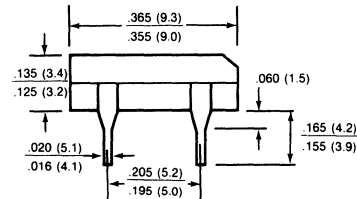
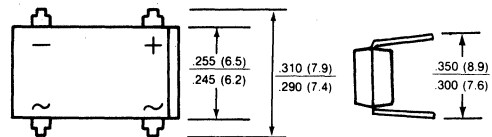
Case: Reliable low cost construction utilizing molded plastic technique.
Terminals: Leads solderable per MIL-STD-202, Methode 208.
Polarity symbols molded on body
Mounting position: Any
Weight: 0.04 ounce 1.0 gram .

VOLTAGE RANGE

10 to 60 Volts

CURRENT

1.0 Ampere



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SDF10	SDF20	SDF30	SDF40	SDF50	SDF60	UNITS
Maximum Recurrent Peak Reverse Voltage	10	20	30	40	50	60	V
Maximum RMS Bridge Input Voltage	7	14	21	28	35	42	V
Maximum DC Blocking Voltage	10	20	30	40	50	60	V
Maximum Average Forward Output Current T _A = 40°C	1.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	75.0						A
Maximum Forward Voltage Drop I _F = 100mA per bridge element I _F = 500mA I _F = 1.0A	.475 .545 .600				.575 .625 .650		V
Maximum Reverse Current at rated T _A = 25°C DC Blocking Voltage per element T _A = 100°C	1.0 5.0						mA mA
Operating Temperature Range T _J	-65 to +125				-65 to +150		°C
Storage Temperature Range T _{STG}	-55 to +150						°C

**RATING AND CHARACTERISTIC CURVES
SDF SERIES**

FIG. 1—MAXIMUM FORWARD SURGE CURRENT

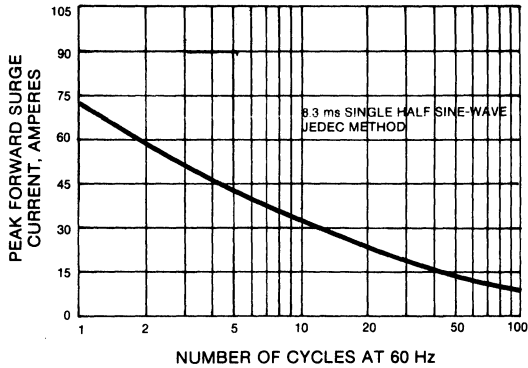


FIG. 3—TYPICAL FORWARD CHARACTERISTICS

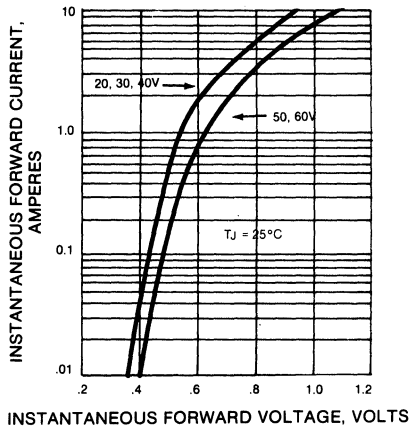


FIG. 2—DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

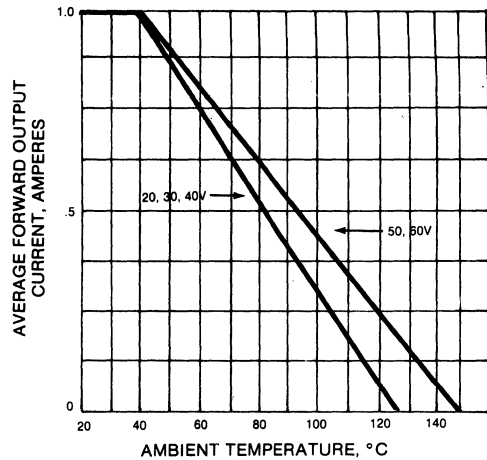
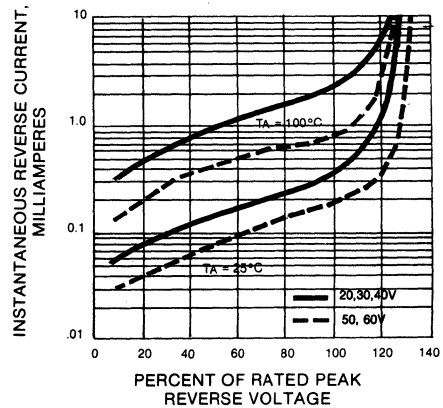


FIG. 4—TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT



**FAST EFFICIENT
RECTIFIERS
1 TO 30 AMPERES**

Glass Passivated Fast Efficient Rectifiers 1 to 6 AMPERES

Types: FE1A thru FE1D
FE2A thru FE2D
FE3A thru FE3D
FE5A thru FE5D
FE6A thru FE6D

Features:

- Glass Passivated Junction
- Superfast Recovery
- Low Forward Voltage
- High Rectification Efficiency to 500 kHz
- High Mechanical Strength
- Hermetically Sealed
- Low Leakage
- Tin Plated Axial Leads Solderable per MIL-STD-202/208

Glass Passivated Junction Plastic Fast Efficient Rectifiers 1 to 5 AMPERES

Types: EGP10A thru EGP10G
EGP20A thru EGP20G
EGP30A thru EGP30G
EGP50A thru EGP50G

Features:

- High Temperature Metallurgically Bonded
- Superfast Recovery
- High Rectification Efficiency to 500 kHz
- Low Forward Voltage
- No Thermal Runaway
- Exceeds Environmental Standards of MIL-STD-19500
- Includes all Advantages for the SUPERECTIFIER Design
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

Plastic Fast Efficient Rectifiers 1 to 3 AMPERES

Types: UF4001 thru UF4007
UF5400 thru UF5406

Features:

- Low cost
- Superfast Recovery
- High Rectification Efficiency to 500 kHz
- Exceeds Environmental Standards of MIL-STD-19500

High Current Fast Efficient Rectifiers 8 to 30 AMPERES

Types: FES8AT thru FES8JT
FES16AT thru FES16JT
FEP16AT thru FEP16JT
FEP30AP thru FEP30JP
FEP30AM thru FEP30JM

Features:

- Superfast recovery times, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency
- Dual rectifier construction, positive center-tap (FEP16/FEP30)

Fast Efficient Rectifier Bridges 1 AMPERE

Types: EDF1A—EDF1D

Features:

- Superfast Recovery
- High Rectification Efficiency to 500 kHz
- Low Forward Voltage
- No Thermal Runaway
- Exceeds Environmental Standards of MIL-STD-19500
- Tin Plated Leads, Solderable per MIL-STD-202/208

TYPE	EGP10A thru EGP10G	FE1A thru FE1D	UF4001 thru UF4007	EGP20A thru EGP20G	FE2A thru FE2D	EGP30A thru EGP30G	FE3A thru FE3D	UF5400 thru UF5406	EGP50A thru EGP50G	FE5A thru FE5D	FE6A thru FE6D	G1301 thru G1304	TYPE
CASE	DO41	DO204AP	DO41	DO15	DO204AP	DO201A	G4	DO201AP	DO201AD	G4	G4	G4	CASE
I _o (A)	1	1	1	2	2	3	3	3	5	5	6	6	I _o (A)
T _A (°C)	55	55	55	55	55	55	55	55	55	55	55	55	T _A (°C)
V _R = 50 (V)	EGP10A	FE1A	UF4001	EGP20A	FE2A	EGP30A	FE3A	UF5400	EGP50A	FE5A	FE6A	G11301	V _R = 50 (V)
V _R = 100 (V)	EGP10B	FE1B	UF4002	EGP20B	FE2B	EGP30B	FE3B	UF5401	EGP50B	FE5B	FE6B	G11302	V _R = 100 (V)
V _R = 150 (V)	EGP10C	FE1C	—	EGP20C	FE2C	EGP30C	FE3C	—	EGP50C	FE5C	FE6C	G11303	V _R = 150 (V)
V _R = 200 (V)	EGP10D	FE1D	UF4003	EGP20D	FE2D	EGP30D	FE3D	UF5402	EGP50D	FE5D	FE6D	G11304	V _R = 200 (V)
V _R = 300 (V)	EGP10F	—	—	EGP20F	—	EGP30F	—	UF5403	EGP50F	—	—	—	V _R = 300 (V)
V _R = 400 (V)	EGP10G	—	UF4004	EGP20G	—	EGP30G	—	UF5404	EGP50G	—	—	—	V _R = 400 (V)
V _R = 500 (V)	—	—	—	—	—	—	—	UF5405	—	—	—	—	V _R = 500 (V)
V _R = 600 (V)	—	—	UF4005	—	—	—	—	UF5406	—	—	—	—	V _R = 600 (V)
V _R = 800 (V)	—	—	UF4006	—	—	—	—	—	—	—	—	—	V _R = 800 (V)
V _R = 1000 (V)	—	—	UF4007	—	—	—	—	—	—	—	—	—	V _R = 1000 (V)
SURGE (A)	30	30	30	75	50	125	125	150	150	135	150	150	SURGE (A)
V _F (V)	.95/1.25	0.95	1.0/1.2	.95/1.25	0.95	.95/1.25	0.95	1.0/1.1	.95/1.25	0.95	0.95	0.925	V _F (V)
Page	100	78	110	102	82	104	88	112	106	90	94	96	Page

TYPE	FES8AT thru FES8JT	FES16AT thru FES16GT	FEP16AT thru FEP16JT	FEP30AM thru FEP30JM	FEP30AP thru FEP30JP	TYPE
CASE	TO220	TO220	TO220CT	TO3M	TO3P	CASE
I _o (A)	8	16	16	30	30	I _o (A)
T _A (°C)	100	100	100	100	100	T _A (°C)
V _R = 50 (V)	FES8AT	FES16AT	FEP16AT	FEP30AM	FEP30AP	V _R = 50 (V)
V _R = 100 (V)	FES8BT	FES16BT	FEP16BT	FEB30BM	FEP30BP	V _R = 100 (V)
V _R = 150 (V)	FES8CT	FES16CT	FEP16CT	FEP30CM	FEP30CP	V _R = 150 (V)
V _R = 200 (V)	FES8DT	FES16DT	FEP16DT	FEP30DM	FEP30DP	V _R = 200 (V)
V _R = 300 (V)	FES8FT	FES16FT	FEP16FT	FEP30FM	FEP30FP	V _R = 300 (V)
V _R = 400 (V)	FES8GT	FES16GT	FEP16GT	FEP30GM	FEP30GP	V _R = 400 (V)
V _R = 500 (V)	FES8HT	FES16HT	FEP16HT	FEP30HM	FEP30HP	V _R = 500 (V)
V _R = 600 (V)	FES8JT	FES16JT	FEP16JT	FEP30JM	FEP30JP	V _R = 600 (V)
SURGE (A)	125	200	200	300	300	SURGE (A)
V _F (V)	0.95/1.3	0.95/1.3	0.95/1.3	0.95/1.3	0.95/1.3	V _F (V)
Page	116	122	126	130		Page

**GLASS PASSIVATED
FAST EFFICIENT RECTIFIERS
1 TO 6 AMPERES**

FE1A THRU FE1D

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Unitized glass hermetically sealed
Terminals: Axial leads solderable to MIL-STD-202, Method 208
Polarity: Colorband denotes cathode end
Mounting Position: Any
Weight: 0.2 ounce, 0.6 gram

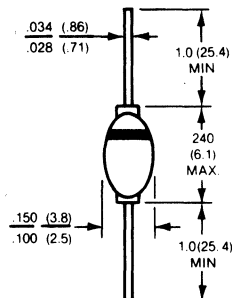
VOLTAGE RANGE

50 thru 200 Volts

CURRENT

1.0 Amperes

DO-204AP



PATENTED

Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings and 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%...

	FE1A	FE1B	FE1C	FE1D	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _A = 55°C	1.0				A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30.0				A
Maximum Instantaneous Forward Voltage at 1.0A	0.95				V
Maximum DC Reverse Current T _A = 25°C at Rated DC Blocking Voltage T _A = 150°C	2.0 50.0				μA
Maximum Reverse Recovery Time (Note 1)	35				ns
Typical Junction Capacitance (Note 2)	50				pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES FE1A THRU FE1D

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

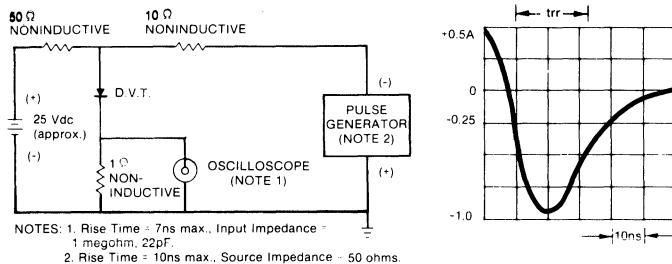


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

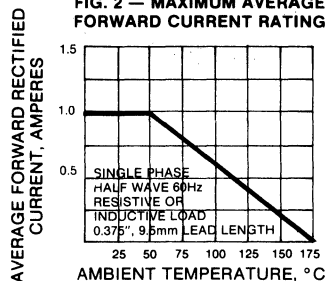


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

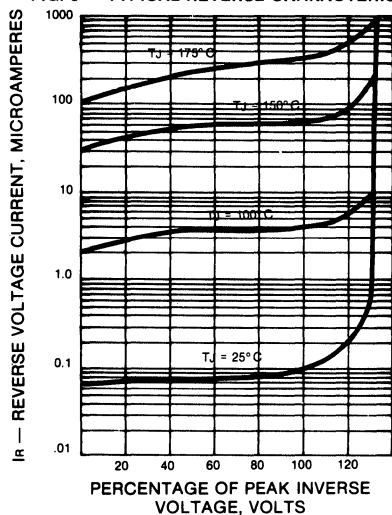


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

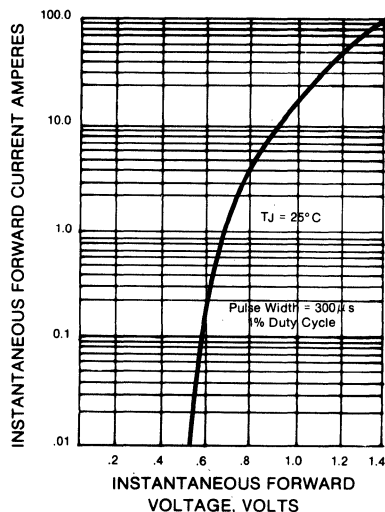


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

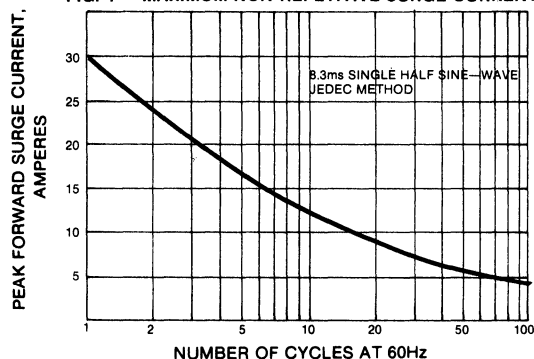
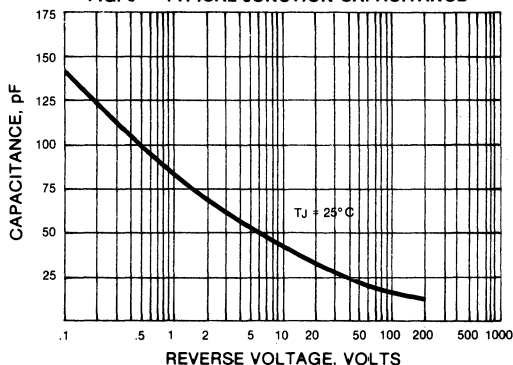


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



GI1001 thru GI1004

GLASS PASSIVATED FAST EPITAXIAL RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times—epitaxial construction
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts

MECHANICAL DATA

Case: Unitized glass hermetically sealed.

Terminals: Axial leads solderable to MIL-STD-202, Method 208

Polarity: Colorband denotes cathode end.

Mounting Position: Any

Weight: 0.02 ounce, 0.6 gram

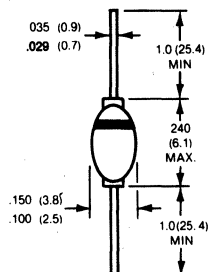
Lead temperature

for Soldering: 350°C, .375 from case for 10 seconds at 5lbs. tension

VOLTAGE RANGE
50, 100, 150, 200 Volts

CURRENT
1.0 Amperes

DO-204-AP



PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

	GI1001	GI1002	GI1003	GI1004	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _L = 75°C	1.0				A
Peak Forward Surge Current, IFM (surge) 8.3 ms single half sine-wave superimposed on rated load (JEDEC) method)	30.0				A
Maximum Forward Voltage at 1.0 ADC	.975				V
Maximum DC Reverse Current at Rated DC Blocking Voltage	2.0				μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T _L = 100°C	50.0				μA
Maximum Reverse Recovery Time (Note 1)	25.0				ns
Typical Junction Capacitance (Note 2)	63.0				pF
Operating and Storage Temperature Range T _J	- 65 to + 175				°C

NOTES: 1—Reverse Recovery Test Conditions: I_F = .5A, I_R = .1A, I_{RR} = .25A
2—Measured at 1 MHz and applied reverse voltage of 4.0 volts.

FIG. 1—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

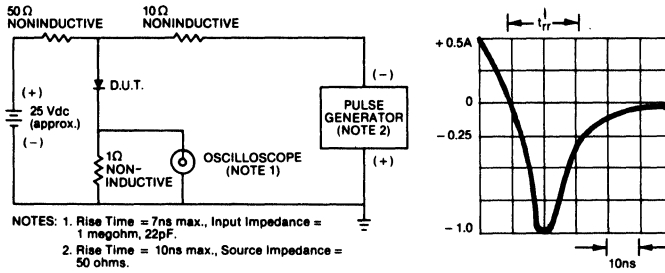


FIG. 2—MAXIMUM AVERAGE FORWARD CURRENT RATING

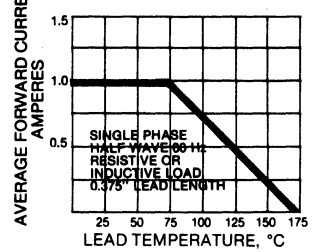


FIG. 3—TYPICAL REVERSE CHARACTERISTICS

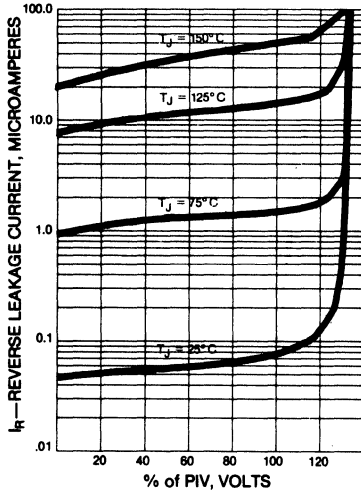


FIG. 5—TYPICAL FORWARD CHARACTERISTICS

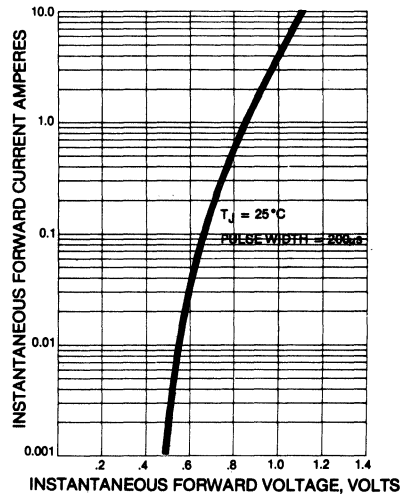


FIG. 4—MAXIMUM NON-REPETITIVE SURGE CURRENT

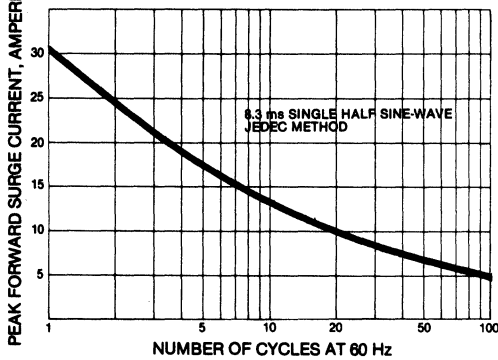
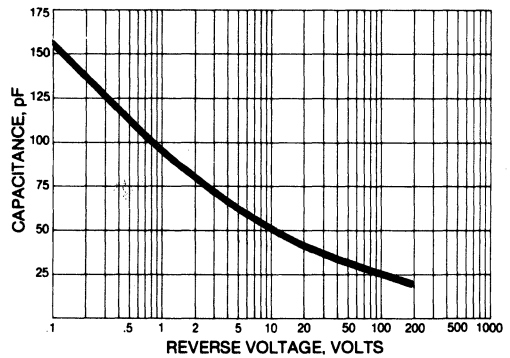


FIG. 6—TYPICAL JUNCTION CAPACITANCE



FE2A THRU FE2D

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Unitized glass hermetically sealed
Terminals: Axial leads solderable to MIL-STD-202, Method 208
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.2 ounce, 0.6 gram

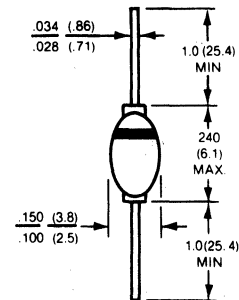
VOLTAGE RANGE

50 thru 200 Volts

CURRENT

2.0 Amperes

DO-204AP



PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,792,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	FE2A	FE2B	FE2C	FE2D	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current, .375" (9.5mm) Lead Length at TA = 55°C	2.0				A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0				A
Maximum Instantaneous Forward Voltage at 2.0A	0.95				V
Maximum DC Reverse Current TA = 25°C at Rated DC Blocking Voltage TA = 150°C	2.0 50.0				μA
Maximum Reverse Recovery Time (Note 1)	35				ns
Typical Junction Capacitance (Note 2)	50				pF
Operating and Storage Temperature Range TJ, Tstg	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES FE2A THRU FE2D

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

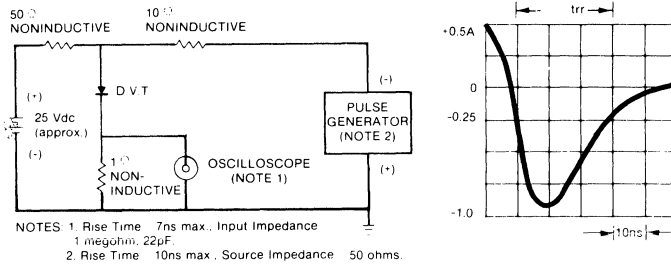


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

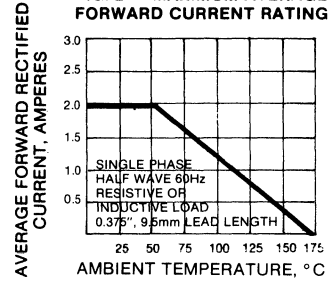


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

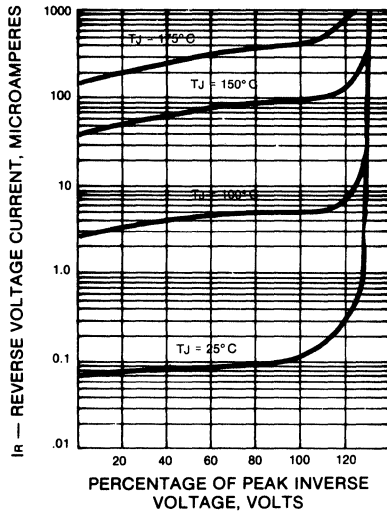


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

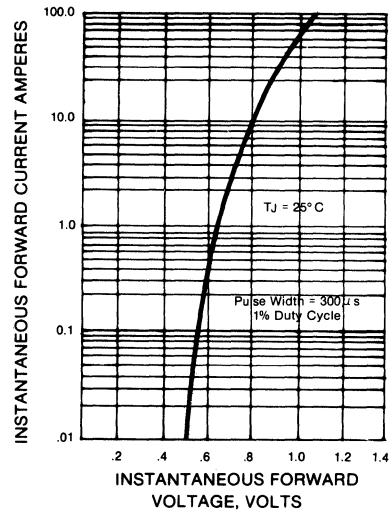


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

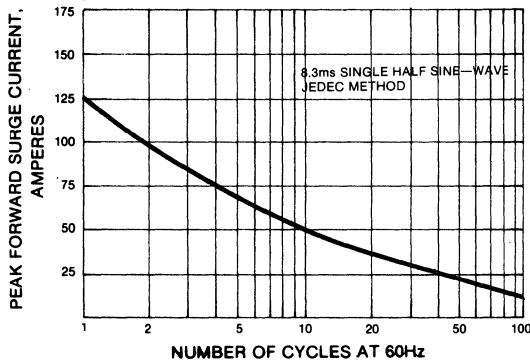
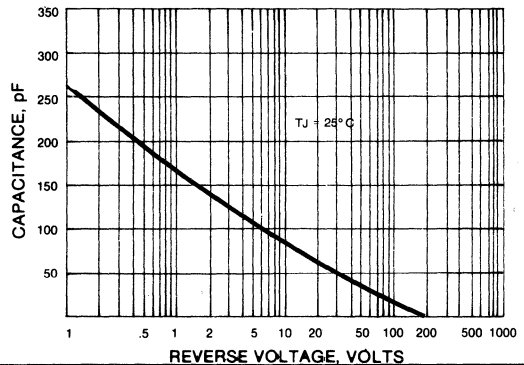


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



GI1101 thru GI1104

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- High temperature soldering guaranteed: [350°C, .375", 9.5 mm, from case for 10 seconds at 5 lbs., 2.3 KG tension]

MECHANICAL DATA

Case: Unitized glass hermetically sealed.
Terminals: Axial leads solderable to MIL-STD-202 Method 208
Polarity: Colorband denotes cathode end.
Mounting Position: Any
Weight: 0.02 ounce, 0.6 gram

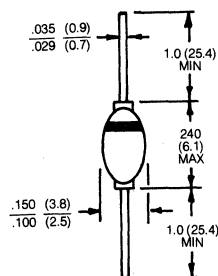
VOLTAGE RANGE

50 to 200 Volts

CURRENT

2.5 Amperes

DO-204-AP



PATENTED
Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 or 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI1101	GI1102	GI1103	GI1104	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at $T_J = 75^\circ\text{C}$	2.5			(Note 3) 2.0	A
Peak Forward Surge Current, IFM (surge) 8.3 ms single half sine-wave superimposed on rated load (JEDEC) method	50			20	A
Maximum Instantaneous Forward Voltage at 2.0 A	.975			(Note 4) 1.25	V
Maximum DC Reverse Current $T_J = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_J = 100^\circ\text{C}$	2.0 50			10 200	μA
Maximum Reverse Recovery Time (Note 1)	25			50	ns
Typical Junction Capacitance (Note 2)	50				pF
Operating and Storage Temperature Range T_J	- 65 to + 175			- 65 to + 150	°C

NOTES: 1-Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = .1\text{A}$, $t_{rr} = .25\text{A}$

2-Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3- $T_J = 50^\circ\text{C}$, .375" (9.5mm) Lead length

4- $I_{FM} = 1.0\text{AOC}$

RATING AND CHARACTERISTIC CURVES GI1101 THRU GI1104

FIG.1—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

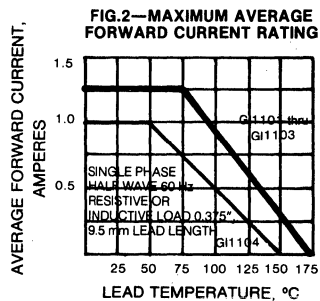
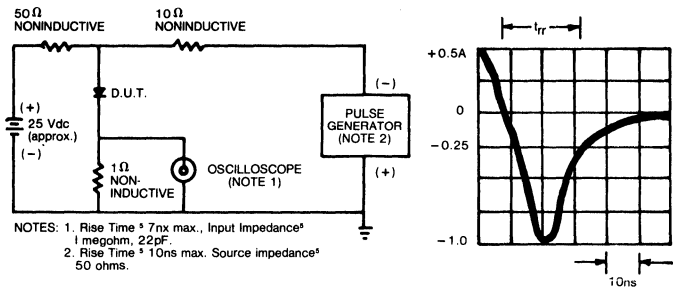


FIG.3—TYPICAL REVERSE CHARACTERISTICS

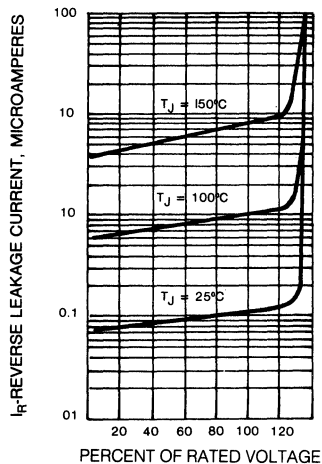


FIG.5—TYPICAL FORWARD CHARACTERISTICS

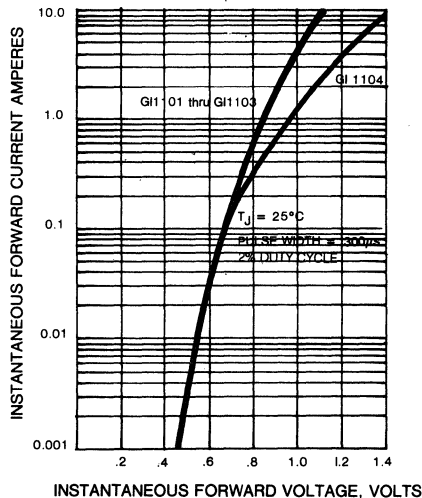


FIG.4—MAXIMUM NON-REPETITIVE SURGE CURRENT

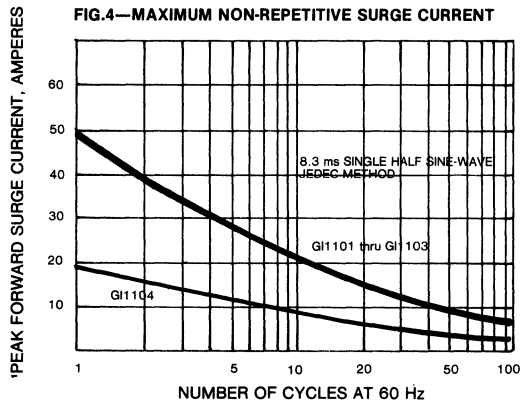
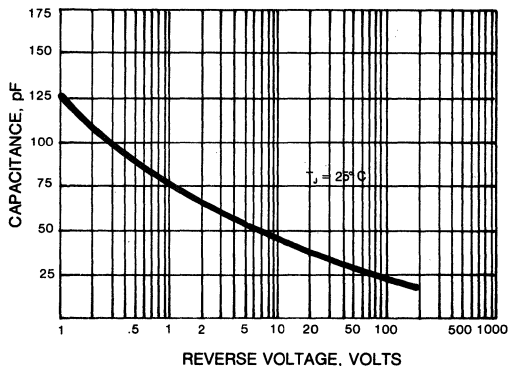


FIG.6—TYPICAL JUNCTION CAPACITANCE



SGI5001 THRU SGI5004

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Glass passivated junction
- Very fast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts

MECHANICAL DATA

Case: Unitized glass hermetically sealed.
 Terminals: Axial leads solderable to MIL-STD-202, Method 208
 Polarity: Colorband denotes cathode end.
 Mounting Position: Any
 Weight: 0.02 ounce, 0.6 gram
 Lead Temperature
 for Soldering: 350°C, .375 from case for 10 seconds at 5lbs. tension

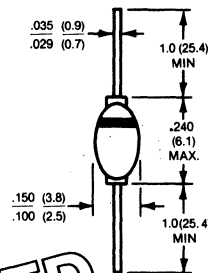
VOLTAGE RANGE

50, 100, 150, 200 Volts

CURRENT

2.0 Ampere

DO-204-AP



PATENTED
 Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	SGI5001	SGI5002	SGI5003	SGI5004	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _L = 75° C	2.0				A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	35.0				A
Maximum Forward Voltage at 1.0ADC T _J = 25° C T _J = 100° C	0.975 0.895				V
Maximum DC Reverse Current at Rated DC Blocking Voltage	2.0				μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 100° C	50.0				μA
Maximum Reverse Recovery Time (Note 1)	100.0				ns
Operating and Storage Temperature Range, T _J	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A

RATING AND CHARACTERISTIC CURVES
SGI5001 THRU SGI5004 SERIES

FIG. 1—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

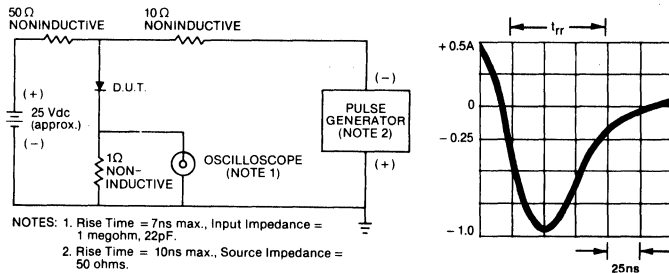


FIG. 2—MAXIMUM AVERAGE FORWARD CURRENT RATING

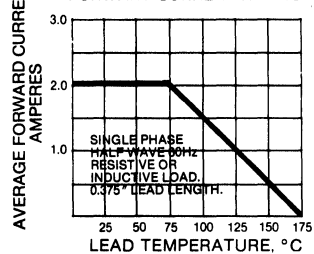


FIG. 3—TYPICAL REVERSE CHARACTERISTICS

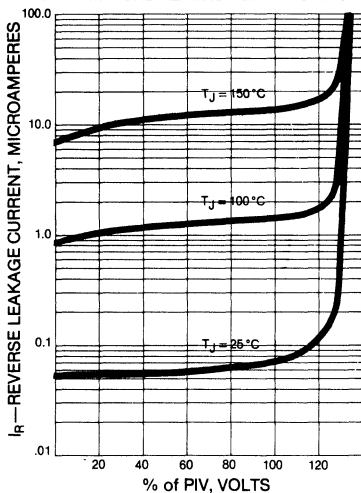


FIG. 5—TYPICAL FORWARD CHARACTERISTICS

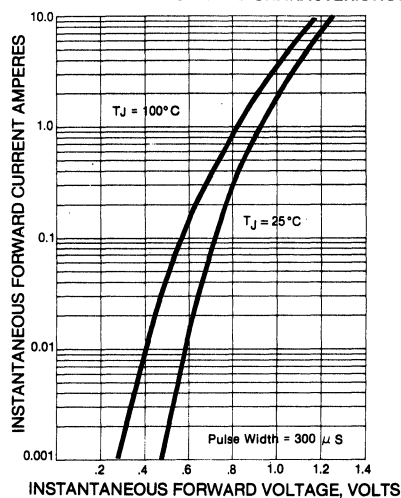


FIG. 4—MAXIMUM NON-REPETITIVE SURGE CURRENT

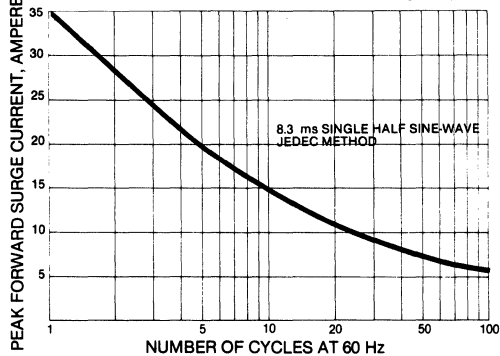
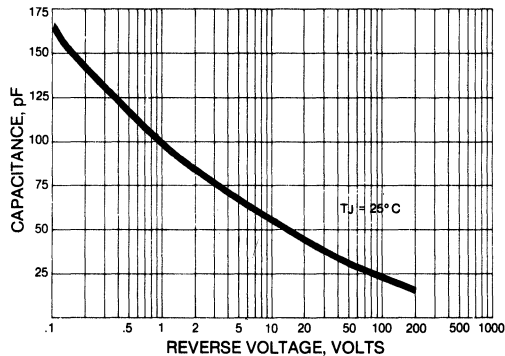


FIG. 6—TYPICAL JUNCTION CAPACITANCE



FE3A THRU FE3D

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contracts
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

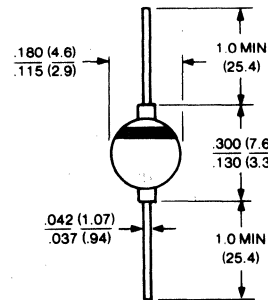
Case: Unitized glass hermetically sealed.
Terminals: Axial leads solderable to MIL-STD-202, Method 208
Polarity: Colorband denotes cathode end
Mounting Position: Any
Weight: 0.37 ounce, 1.04 grams

VOLTAGE RANGE

50 thru 200 Volts

CURRENT

3.0 Amperes



PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,996,802 of 1976; brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	FE3A	FE3B	FE3C	FE3D	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at TA = 55°C	3.0				A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125.0				A
Maximum Instantaneous Forward Voltage at 3.0A	0.95				V
Maximum DC Reverse Current TA = 25°C at Rated DC Blocking Voltage TA = 150°C	5.0 50.0				μ A
Maximum Reverse Recovery Time (Note 1)	35				ns
Typical Junction Capacitance (Note 2)	100				pF
Operating and Storage Temperature Range TJ, Tstg	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES FE3A THRU FE3D

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

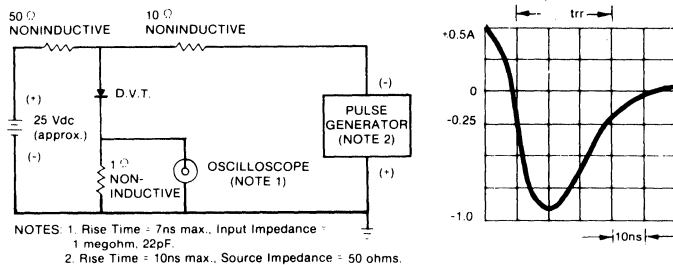


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

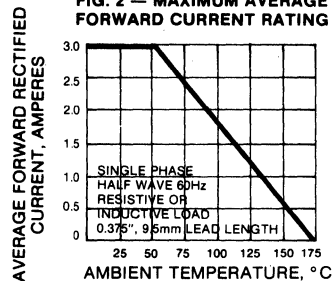


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

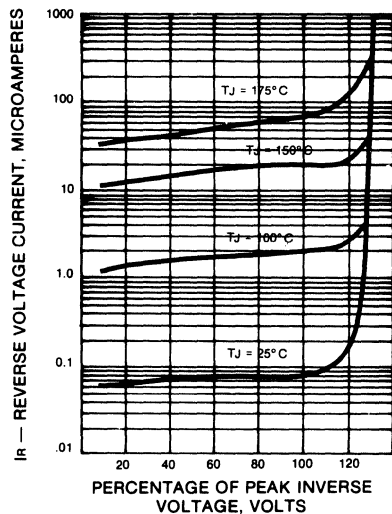


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

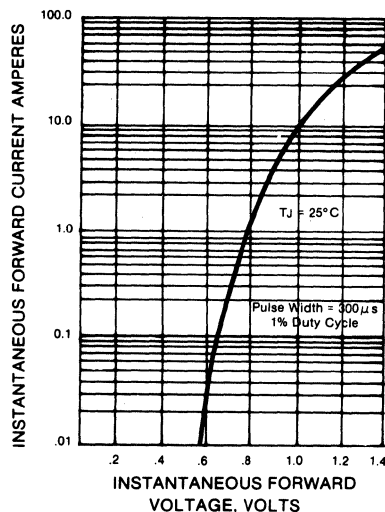


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

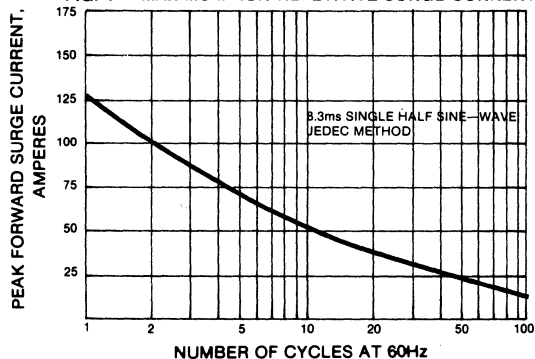
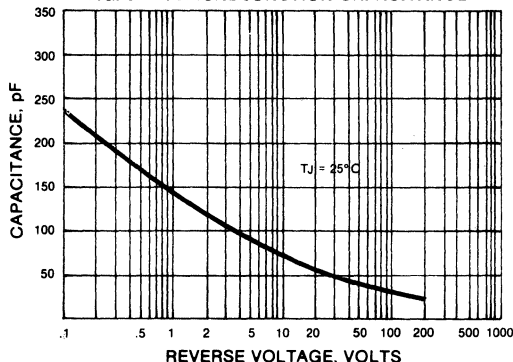


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



FE5A THRU FE5D

GLASS PASSIVATED FAST-EFFICIENT RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times—epitaxial construction
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- High temperature soldering guaranteed: 350° C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

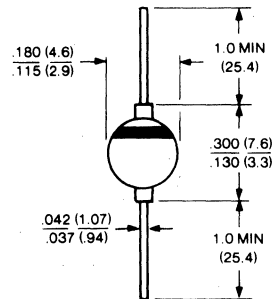
Case: Unitized glass hermetically sealed
 Terminals: Axial leads solderable to MIL-STD-202, Method 208
 Polarity: Colorband denotes cathode end
 Mounting Position: Any
 Weight: 0.37 ounce, 1.04 grams

VOLTAGE RANGE

50 thru 200 Volts

CURRENT

5.0 Amperes



PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	FE5A	FE5B	FE5C	FE5D	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375", (9.5mm) Lead Length at T _L = 55° C	5.0				A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	135.0				A
Maximum Instantaneous Forward Voltage at 5.0A	0.95				V
Maximum DC Reverse Current T _A = 25° C at Rated DC Blocking Voltage T _A = 150° C	5.0 50.0				μ A
Maximum Reverse Recovery Time (Note 1)	35				ns
Typical Junction Capacitance (Note 2)	100				pF
Operating and Storage Temprature Range T _J , T _{STG}	-65 to +175				° C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES FE5A THRU FE5D

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

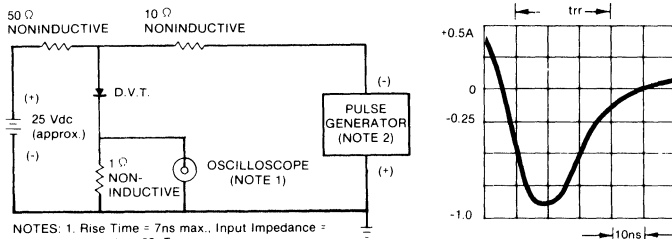


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

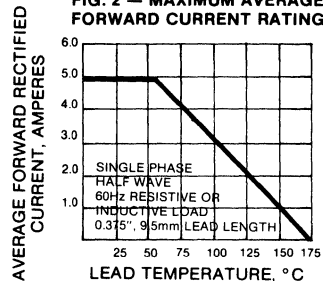


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

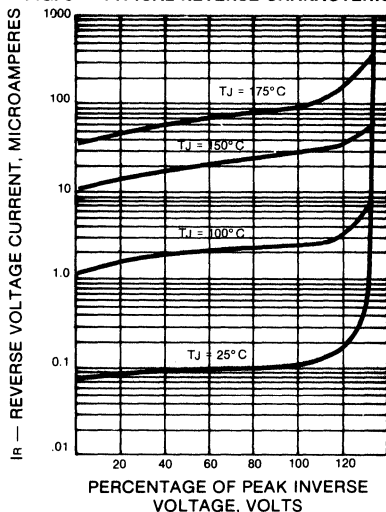


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

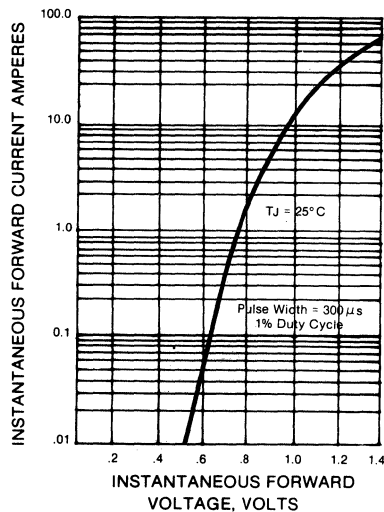


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

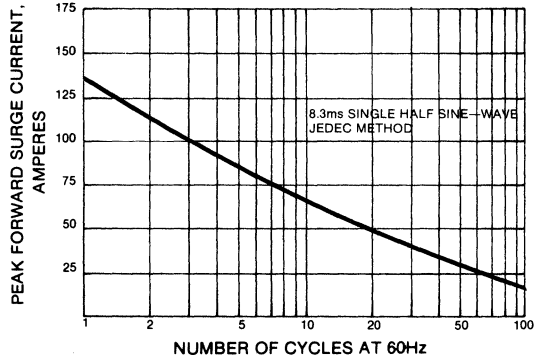
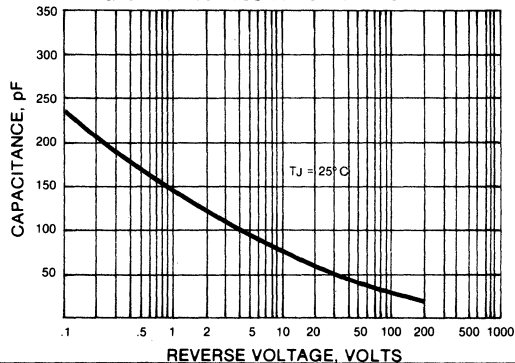


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



SGI5301 THRU SGI5304

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Very fast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts

MECHANICAL DATA

Case: Unitized glass hermetically sealed.

Terminals: Axial leads solderable to MIL-STD-202, Method 208

Polarity: Colorband denotes cathode end.

Mounting Position: Any

Weight: 0.037 ounce, 1.04 grams

Lead Temperature

for Soldering: 350 °C, .375 from case for
10 seconds at 5lbs. tension

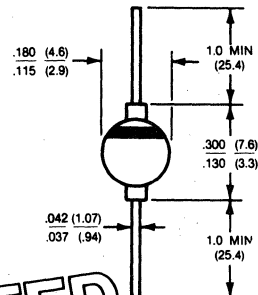
VOLTAGE RANGE

50, 100, 150, 200 Volts

CURRENT

5.0 Amperes

G-4



PATENTED
Brazed-lead assembly is covered by Patent No.
3,930,306 of 1976 and glass composition by
Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SGI5301	SGI5302	SGI5303	SGI5304	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _L = 75°C	5.0				A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	110.0				A
Maximum Forward Voltage at 5.0ADC T _J = 25°C T _J = 100°C	0.975 0.895				V
Maximum DC Reverse Current at Rated DC Blocking Voltage	5.0				μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 100°C	150.0				μA
Maximum Reverse Recovery Time (Note 1)	100.0				ns
Operating and Storage Temperature Range	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A

* RATING AND CHARACTERISTIC CURVES
SGI5301 thru SGI5304

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

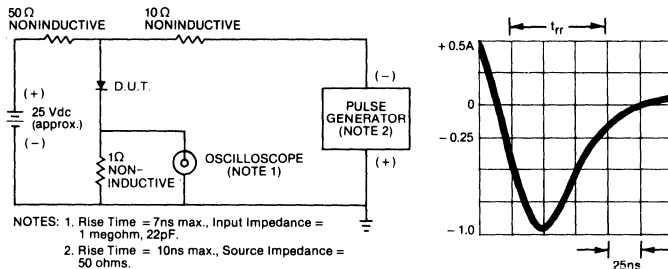


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

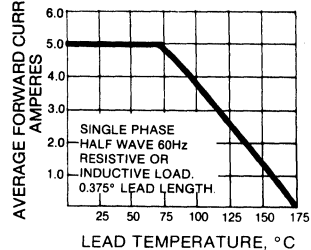


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

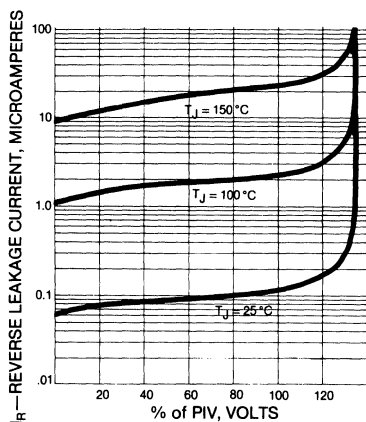


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

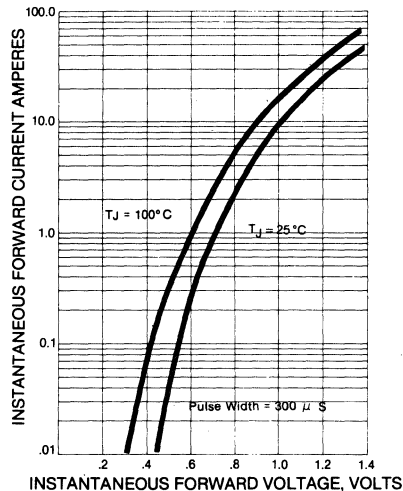


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

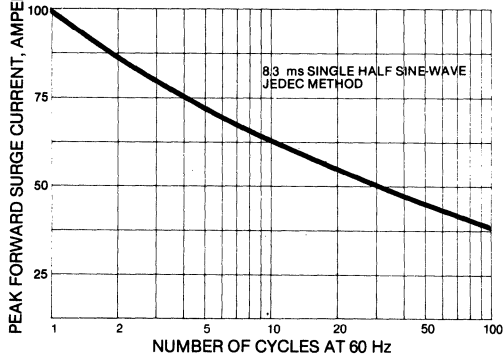
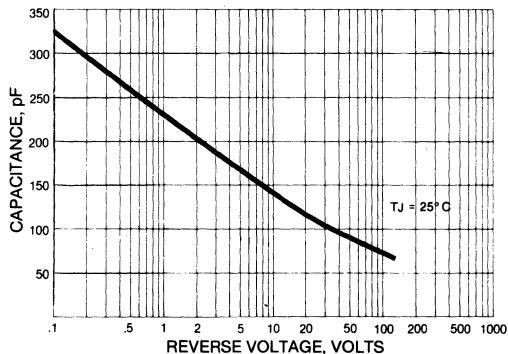


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



FE6A THRU FE6D

GLASS PASSIVATED FAST-EFFICIENT RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Glass passivated junction
- Superfast recovery times—epitaxial construction
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- High temperature soldering guaranteed: 350° C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

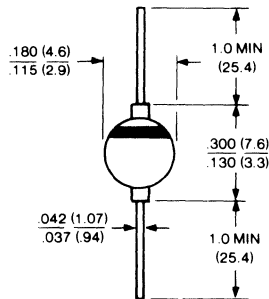
MECHANICAL DATA

Case: Unitized glass hermetically sealed
Terminals: Axial leads to solderable to MIL-STD-202 Method 208
Polarity: Colorband denotes cathode end
Mounting Position: Any
Weight: 0.37 ounce, 1.04 grams

VOLTAGE RANGE
50 thru 200 Volts

CURRENT
6.0 Amperes

G-4



PATENTED
Braided-lead assembly is covered by Patent No. 3,840,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	FE6A	FE6B	FE6C	FE6D	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375", (9.5mm) Lead Length at T _L = 55° C	6.0				A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	150.0				A
Maximum Instantaneous Forward Voltage at 6.0A	0.975				V
Maximum DC Reverse Current T _A = 25° C at Rated DC Blocking Voltage T _A = 150° C	5.0 50.0				A μA
Maximum Reverse Recovery Time (Note 1)	35				ns
Typical Junction Capacitance (Note 2)	100				pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES FE6A THRU FE6D

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

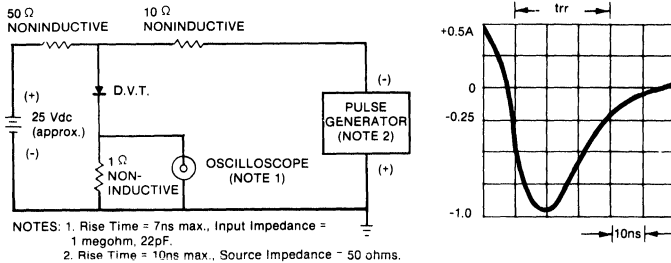


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

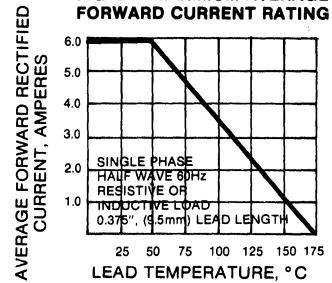


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

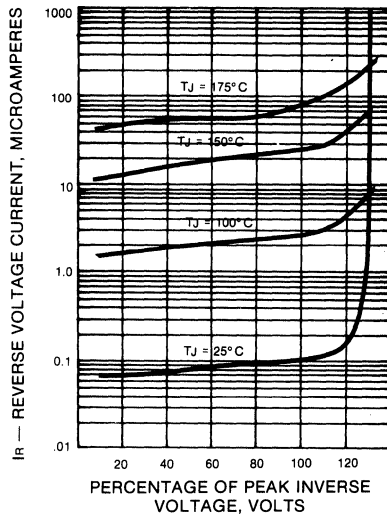


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

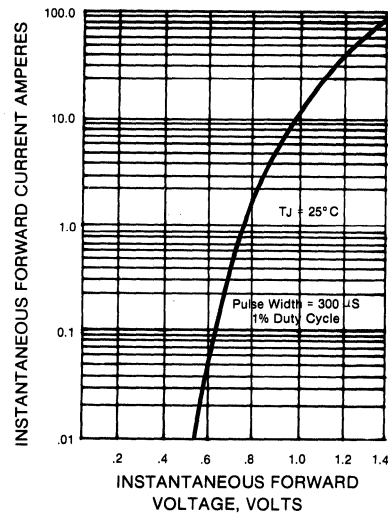


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

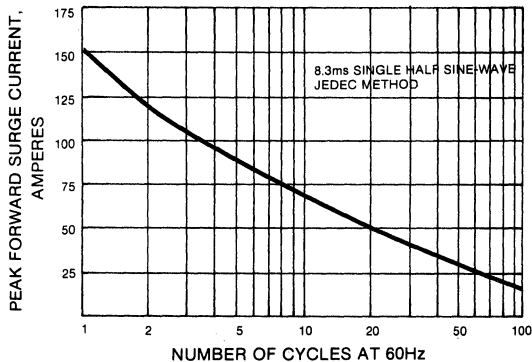
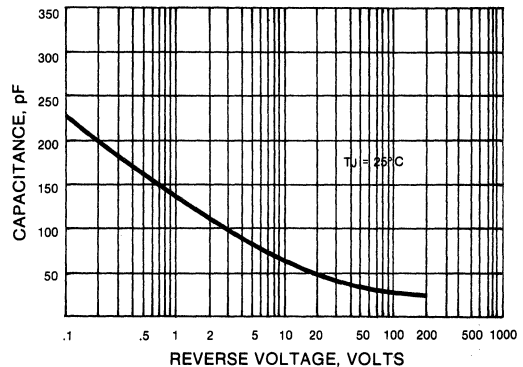


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



GI1301 thru GI1304

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

**GENERAL
INSTRUMENT**

FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- High temperature soldering guaranteed: 350°C, .375", (9.5 mm), from case for 10 seconds at 5 lbs., (2.3 kg) tension

MECHANICAL DATA

Case: Unitized glass hermetically sealed.

Terminals: Axial leads solderable to MIL-STD-202, Method 208

Polarity: Colorband denotes cathode end.

Mounting Position: Any

Weight: 0.37 ounce, 10.4 grams

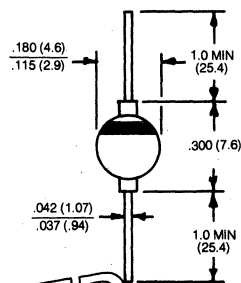
VOLTAGE RANGE

50 to 200 Volts

CURRENT

6.0 Amperes

G-4



PATENTED
Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI1301	GI1302	GI1303	GI1304	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _L = 75°C	6.0			(Note 3) 5.0	A
Peak Forward Surge Current, IFM (surge) 8.3ms single half sine-wave superimposed on rated load (JEDEC) method	150			70	A
Maximum Instantaneous Forward Voltage at 6.0 A	0.925			(Note 4) 1.25	V
Maximum DC Reverse Current T _A = 25°C at Rated DC Blocking Voltage T _A = 100°C	50 150			20 500	μA
Maximum Reverse Recovery Time (Note 1)	30			50	ns
Typical Junction Capacitance (Note 2)	95				pF
Operating and Storage Temperature Range T _J	-65 to +175			-65 to +150	°C

NOTES: 1-Reverse Recovery Test Conditions: 1_F = .5A, I_R = 1A, I_{RM} = 25A
2-Measured at 1 Mhz and applied reverse voltage of 4.0 volts.
3-T_L = 50°C .375" (9.5mm) Lead length
4-I_{FM} = 3.0ADC

RATING AND CHARACTERISTIC CURVES GI1301 THRU GI1304

FIG.1—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

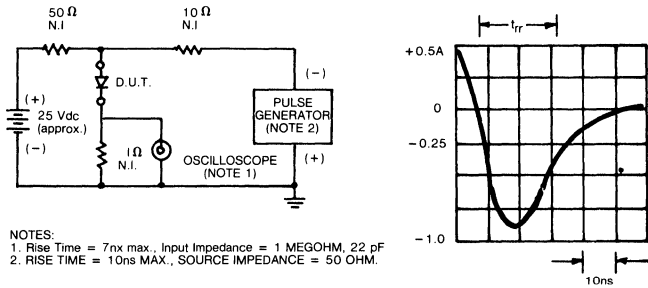


FIG.2—MAXIMUM AVERAGE FORWARD CURRENT RATING

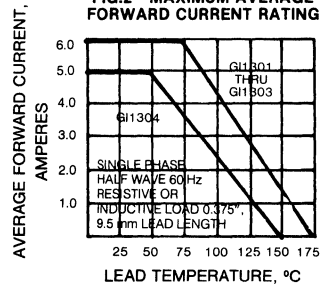


FIG.3—TYPICAL REVERSE CHARACTERISTICS

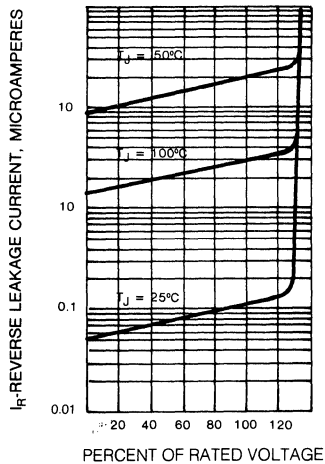


FIG.5—TYPICAL FORWARD CHARACTERISTICS

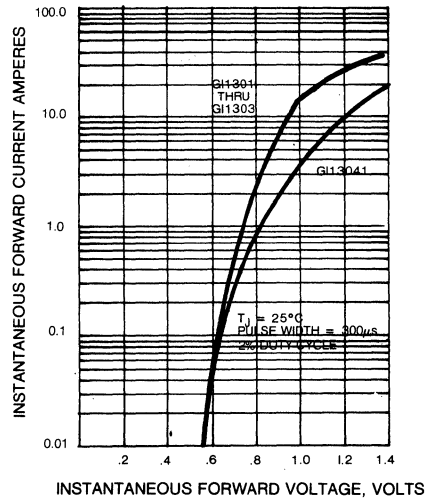


FIG.4—MAXIMUM NON-REPETITIVE SURGE CURRENT

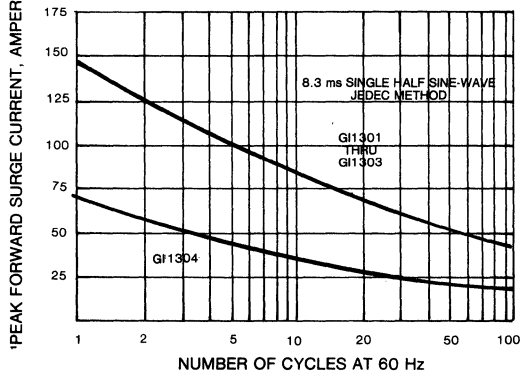
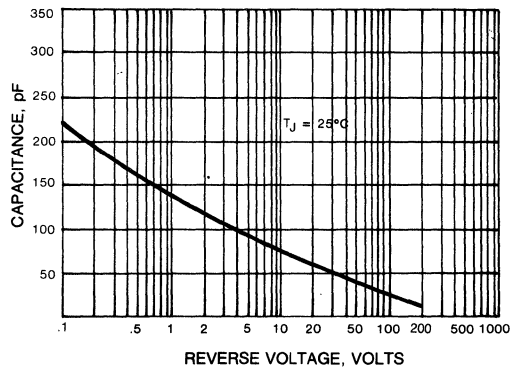


FIG.6—TYPICAL JUNCTION CAPACITANCE





**GLASS PASSIVATED PLASTIC
FAST EFFICIENT RECTIFIERS
1 TO 5 AMPERES**

EGP10A THRU EGP10G

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads solderable to MIL-STD-202, Method 208
Polarity: Colorband denotes cathode end
Mounting Position: Any
Weight: 0.015 ounce, 0.4 gram

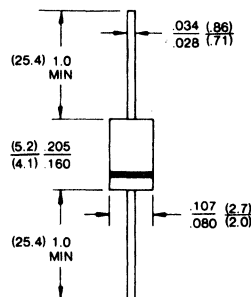
VOLTAGE RANGE

50 thru 400 Volts

CURRENT

1.0 Amperes

DO41



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,802 of 1976, brazed lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	EGP10A	EGP10B	EGP10C	EGP10D	EGP10F	EGP10G	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Current .375", (9.5mm) Lead Length at T _A = 55° C	1.0						A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30.0						A
Maximum Instantaneous Forward Voltage at 1.0A	0.95				1.25		V
Maximum DC Reverse Current T _A = 25° C at Rated DC Blocking Voltage T _A = 150° C	5.0 50.0						μA
Maximum Reverse Recovery Time (Note 1)	50.0						ns
Typical Junction Capacitance (Note 2)	20						pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +150						°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES EGP10A THRU EGP10G

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

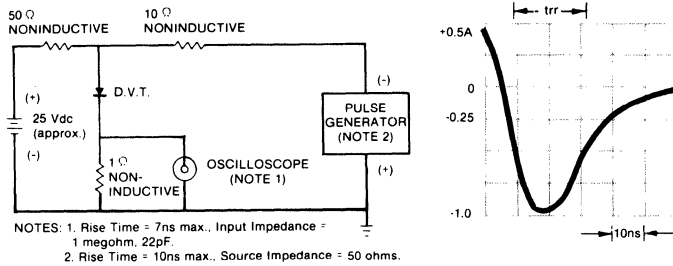


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

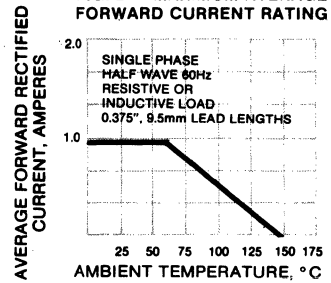


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

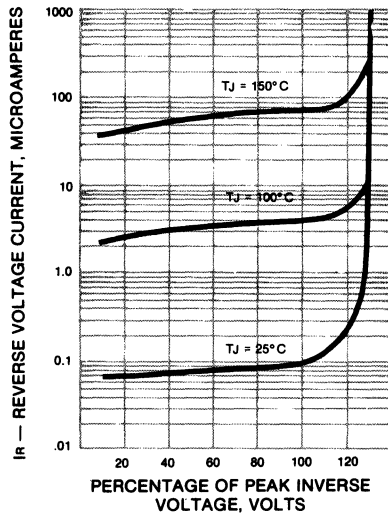


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

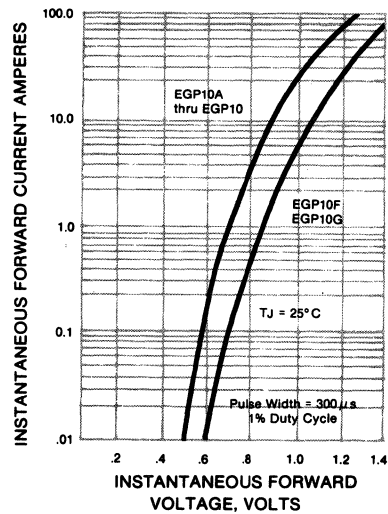


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

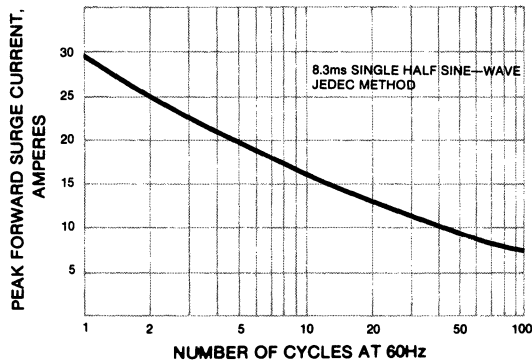
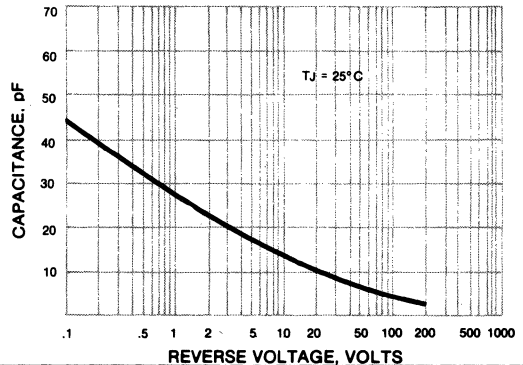


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



EGP20A THRU EGP20G

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature soldering guaranteed: 350° C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.2kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
 Terminals: Axial leads solderable to MIL-STD-202, Method 208
 Polarity: Colorband denotes cathode end
 Mounting Position: Any
 Weight: 0.015 ounce, 0.4 gram

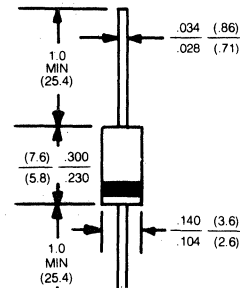
VOLTAGE RANGE

50 thru 400 Volts

CURRENT

2.0 Amperes

DO15



PATENTED
 Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	EGP20A	EGP20B	EGP20C	EGP20D	EGP20F	EGP20G	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Current .375", (9.5mm) Lead Length at TA = 55°C	2.0						A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	75.0						A
Maximum Instantaneous Forward Voltage at 2.0A	.95				1.25		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	TA = 25°C TA = 150°C			5.0 50.0			μ A
Maximum Reverse Recovery Time (Note 1)	50.0						ns
Typical Junction Capacitance (Note 2)	50						pF
Operating and Storage Temperature Range TJ, TSTG	-65 to +150						°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES EGP20A THRU EGP20G

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

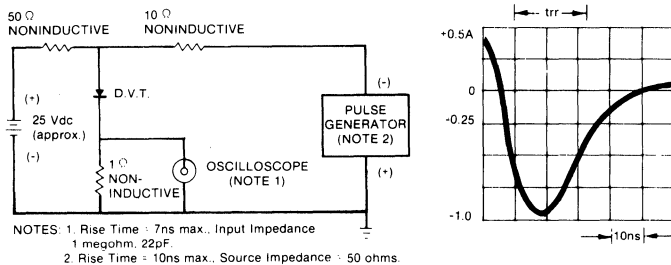


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

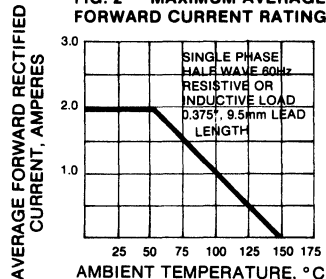


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

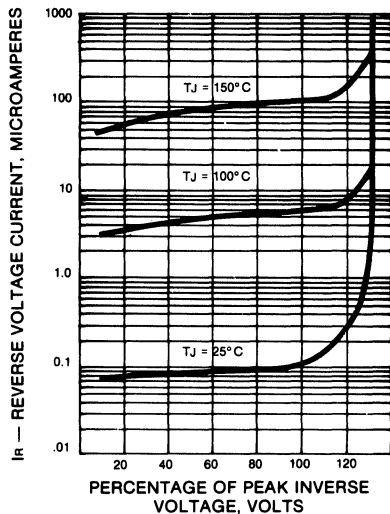


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

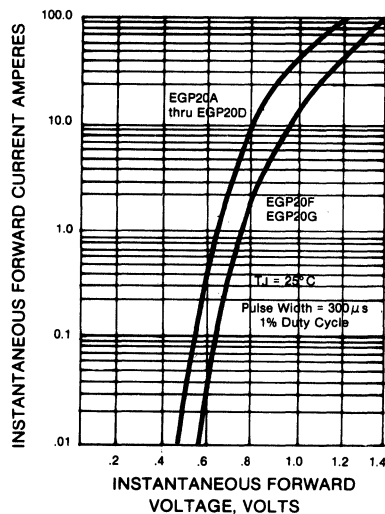


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

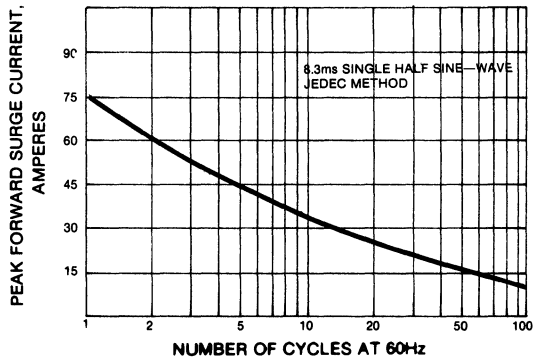
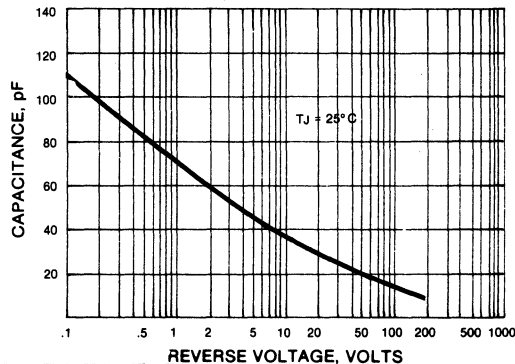


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



EGP30A THRU EGP30G

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature soldering guaranteed: 350° C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads solderable to MIL-STD-202, Method 208

Polarity: Colorband denotes cathode end

Mounting Position: Any

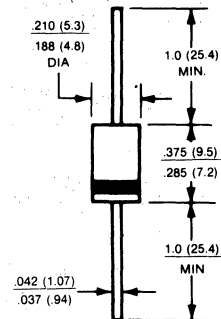
Weight: 0.04 ounce, 1.12 grams

VOLTAGE RANGE

50 thru 400 Volts

CURRENT

3.0 Amperes



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	EGP30A	EGP30B	EGP30C	EGP30D	EGP30F	EGP30G	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _A = 55° C	3.0						A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125.0						A
Maximum Instantaneous Forward Voltage at 3.0A	.95				1.25		V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25° C T _A = 150° C	5.0 50.0						μ A
Maximum Reverse Recovery Time (Note 1)	50.0						ns
Typical Junction Capacitance (Note 2)	100						pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +150						° C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES EGP30A THRU EGP30G

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

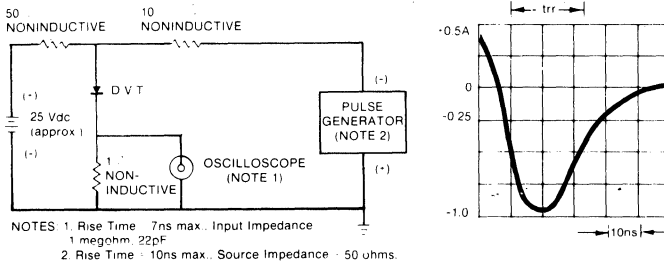


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

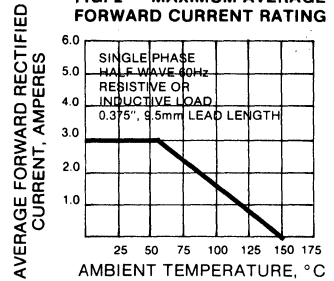


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

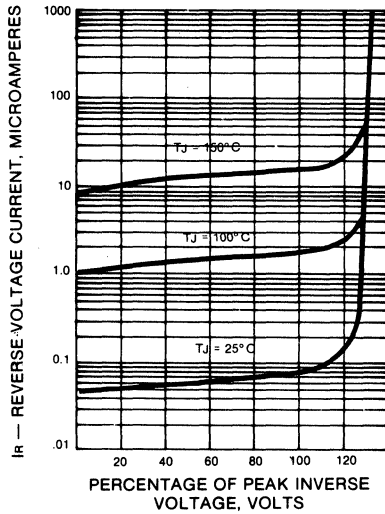


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

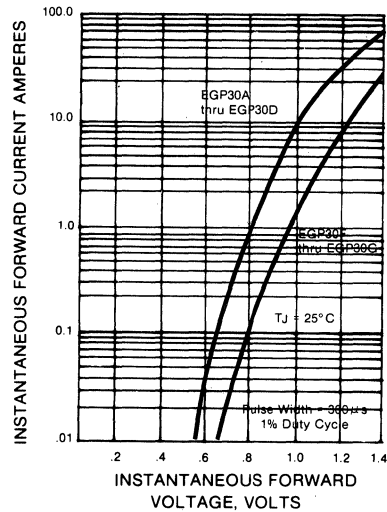


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

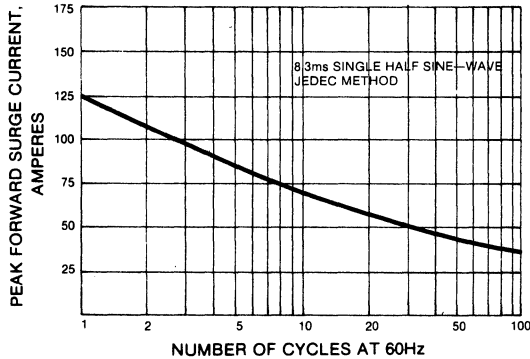
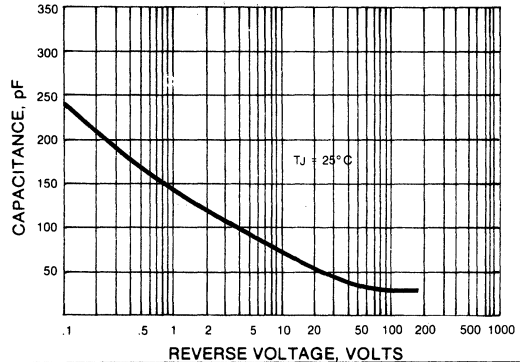


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



EGP50A THRU EGP50G

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Superfast recovery times
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-STD-19500
- Low leakage
- High surge capability
- High temperature metallurgically bonded, no compression contacts
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

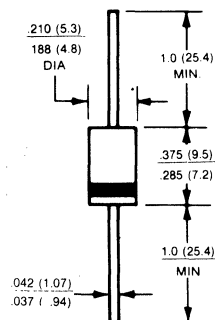
Case: Molded plastic over glass
Terminals: Axial leads solderable to MIL-STD-202, Method 208
Polarity: Colorband denotes cathode end
Mounting Position: Any
Weight: 0.04 ounce, 1.12 grams

VOLTAGE RANGE

50 thru 400 Volts

CURRENT

5.0 Amperes



PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	EGP50A	EGP50B	EGP50C	EGP50D	EGP50F	EGP50G	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _L = 55°C	5.0						A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	150.0						A
Maximum Instantaneous Forward Voltage at 5.0A	.95				1.25		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	5.0 50.0				50.0		μA
Maximum Reverse Recovery Time (Note 1)	50.0						ns
Typical Junction Capacitance (Note 2)	100						pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +150						°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES EGP50A THRU EGP50G

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

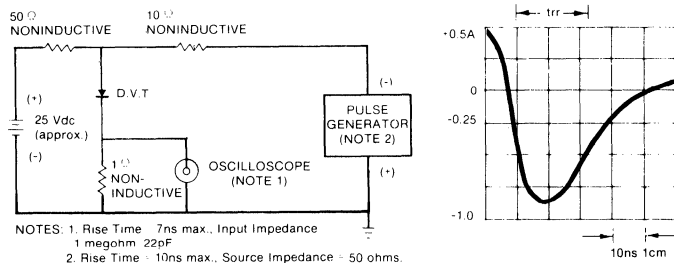


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

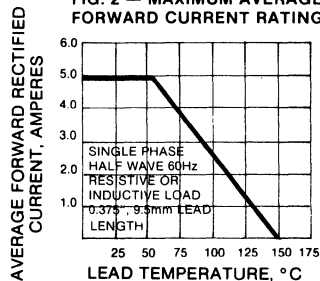


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

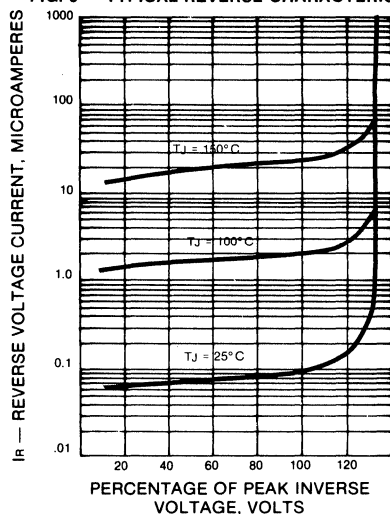


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

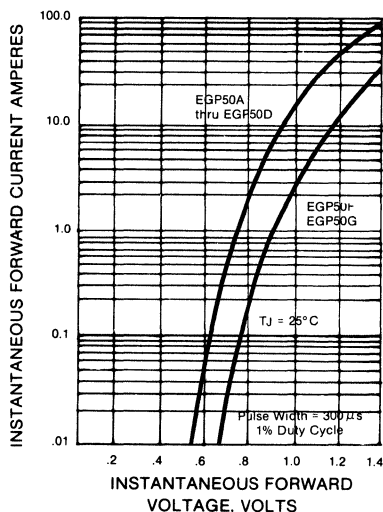


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

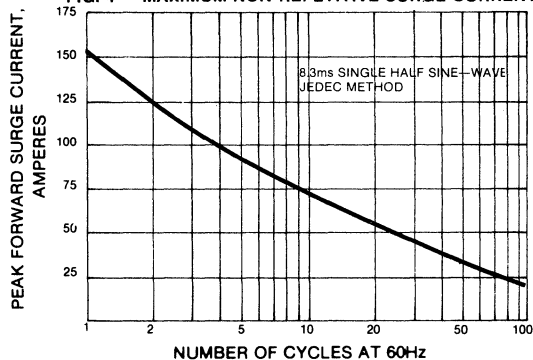
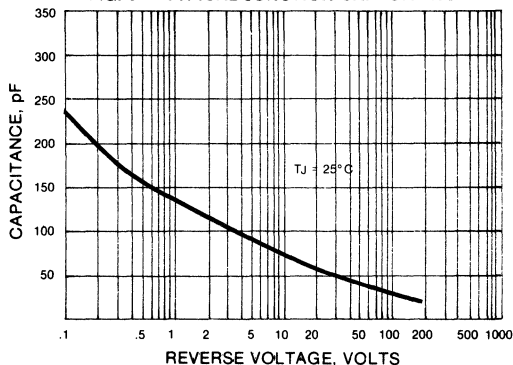


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



**PLASTIC
FAST EFFICIENT RECTIFIERS
1 TO 3 AMPERES**

UF4001 THRU UF4007

ULTRAFAST MINIATURE PLASTIC SILICON RECTIFIERS

GENERAL
INSTRUMENT

FEATURES

- Low Cost
- Ultrafast Recovery Times
- Low Forward Voltage
- Low Leakage
- High Surge Capability
- Plastic Package has U/L Flammability Classification 94V-0.

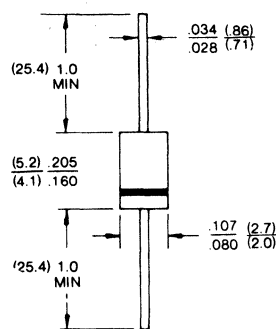
MECHANICAL DATA:

Case: JEDEC DO-41, Molded Plastic
Terminals: Axial Leads Solderable
Per MIL-STD-202, Method 208
Polarity: Color band denotes Cathode End
Mounting Position: Any
Weight: 0.012 ounce, 0.3 gram

VOLTAGE RANGE
50 to 1000 PRV

CURRENT
1.0 Ampere

DO-41



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

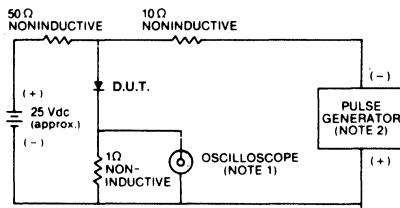
	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Current .375" (9.5mm) Lead Length at T _A = 55°C	1.0							A
Peak Forward Surge Current, I _{FM} (Surge); 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30.0							A
Maximum Instantaneous Forward Voltage at 1.0 Adc	1.0				1.4			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	10.0							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 100°C	150.0							μA
Maximum Reverse Recovery Time (Note 1)	50.0							ns
Typical Junction Capacitance (Note 2)	35.0							pF
Operating and Storage Temperature Range T _J	-65 to +150							°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

UF4001 THRU UF4007

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



- NOTES: 1 Rise Time = 7ns max., Input Impedance = 1 megohm, 22pF
2 Rise Time = 10ns max., Source Impedance = 50 ohms

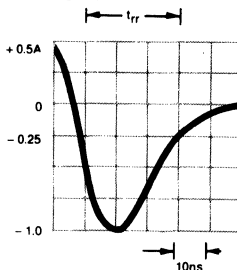


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

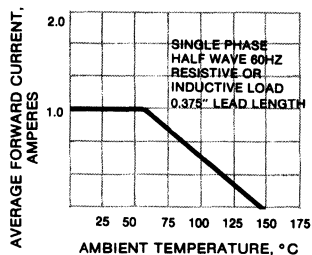


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

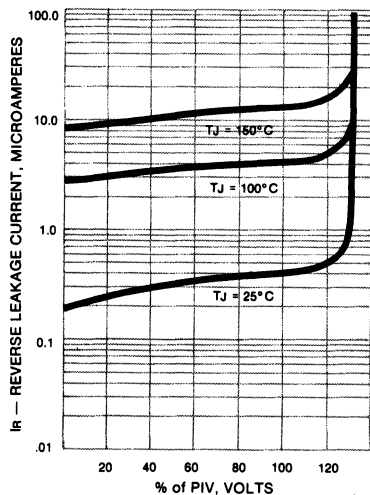


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

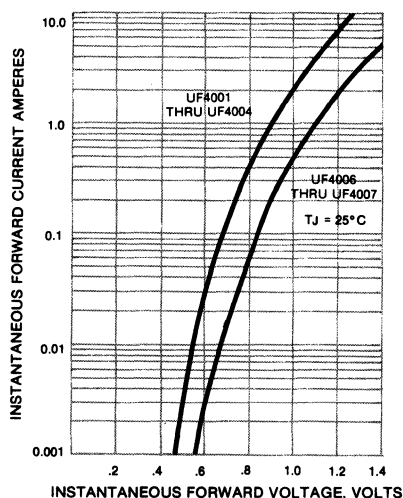


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

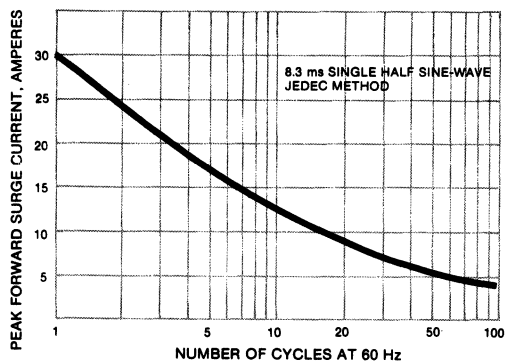
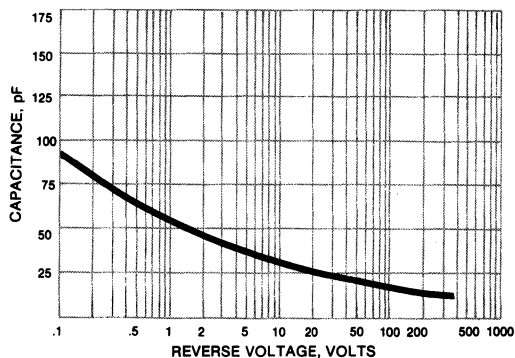


FIG. 6 — TYPICAL JUNCTION CAPACITANCE



UF5400 THRU UF5406

ULTRAFAST PLASTIC SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Low Cost
- Ultrafast Recovery Times
- Low Forward Voltage,
- Low Leakage
- High Surge Capability
- Plastic Package has U/L Flammability Classification 94V-0

MECHANICAL DATA

Case: JEDEC DO-201AD Molded Plastic
 Terminals: Axial Leads Solderable
 to MIL-STD-202, Method 208
 Polarity: Color Band denotes Cathode End
 Mounting Position: Any
 Weight: 0.04 Ounce, 1.1 Grams

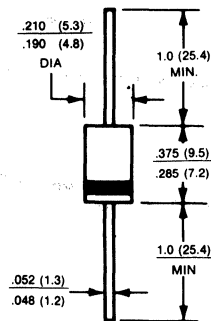
VOLTAGE RANGE

50 to 600 PRV

CURRENT

3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	UF5400	UF5401	UF5402	UF5403	UF5404	UF5405	UF5406	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	500	600	V
Maximum RMS Voltage	35	70	140	210	280	350	425	V
Maximum DC Blocking Voltage	50	100	200	300	400	500	600	V
Maximum Average Forward Current .375", (9.5mm) Lead Length at T _A = 55° C	3.0							A
Peak Forward Surge Current, I _{FM} (Surge); 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	150.0							A
Maximum Forward Voltage at 3.0 Adc	1.0						1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	10.0							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 100° C	200							μA
Maximum Reverse Recovery Time (Note 1)	50.0							ns
Typical Junction Capacitance (Note 2)	80.0							pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +150							°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = .25A.
2. Measure at 1 MHz and applied reverse voltage of 4.0 volts.

UF5400 THRU UF5406

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

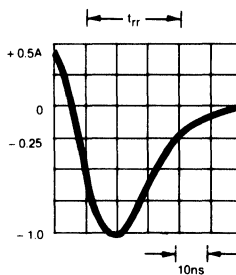
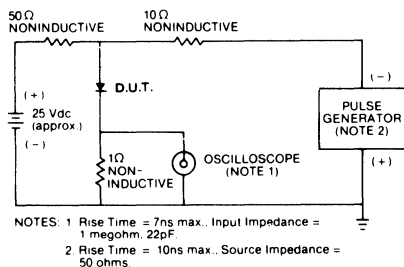


FIG. 2 — MAXIMUM AVERAGE FORWARD CURRENT RATING

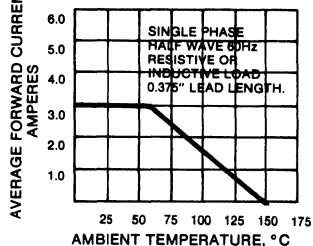


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

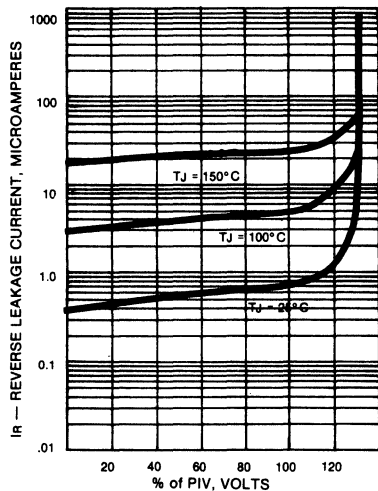


FIG. 5 — TYPICAL FORWARD CHARACTERISTICS

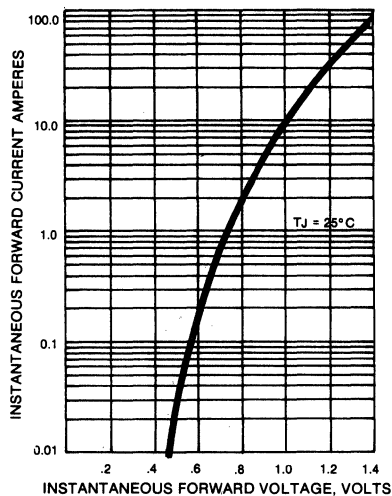


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

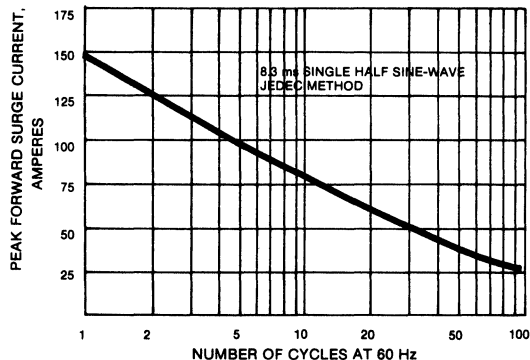
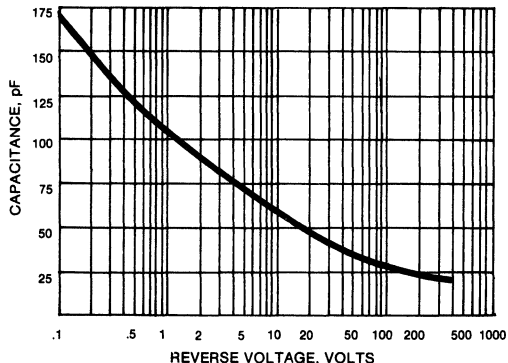


FIG. 6 — TYPICAL JUNCTION CAPACITANCE

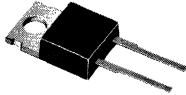


**HIGH CURRENT
FAST EFFICIENT RECTIFIERS
8 TO 30 AMPERES**

FES8-T SERIES

FAST EFFICIENT GLASS PASSIVATED RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Glass Passivated Junction
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery times, high voltage
- High temperature soldering guaranteed: 300°C, .25", (6.35 mm) from case for 10 seconds.

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD 202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

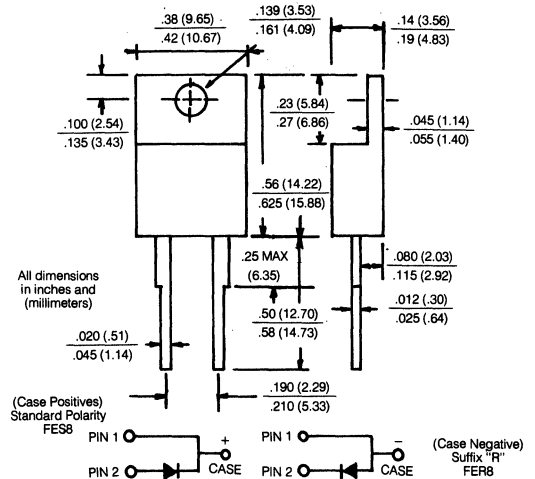
VOLTAGE RANGE

50 to 600 Volts

CURRENT

8.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	FES8AT	FES8BT	FES8CT	FES8DT	FES8FT	FES8GT	FES8HT	FES8JT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at Tc = 100°C	8.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	125								A
Maximum Instantaneous Forward Voltage at 8.0A	0.95				1.3				V
Maximum DC Reverse Current at DC Blocking Voltage Tc = 25°C Tc = 100°C	10 500								μA μA
Typical Junction Capacitance (Note 1)	65								pF
Maximum Reverse Recovery Time (Note 2)	35								ns
Typical Thermal Resistance RθJC (Note 3)	3.0								°C/W
Storage and Operating Temperature Range Tstg	-65 to +150								°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: I_F = .5A, 1R = 1A, I_{rr} = .25A.
3. Thermal Resistance Junction to CASE.

**RATING CHARACTERISTIC CURVES
FES8AT THRU FES8JT**

FIG. 1 — FORWARD CURRENT DERATING CURVE

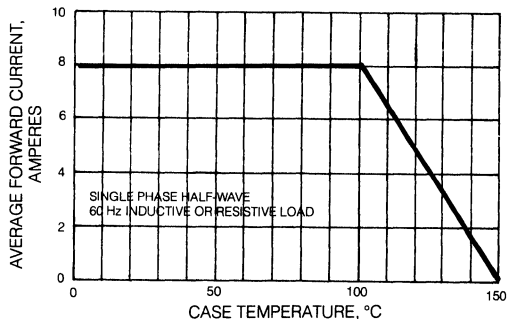
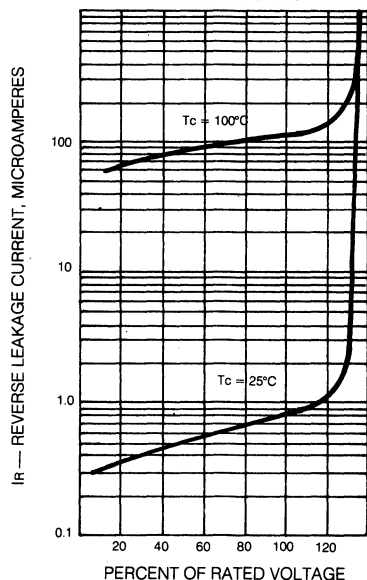
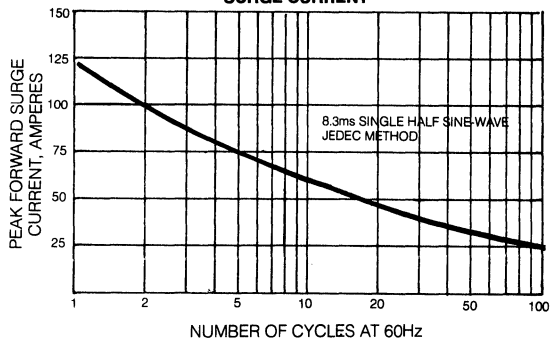


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS



**FIG. 3 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**



**FIG. 4 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**

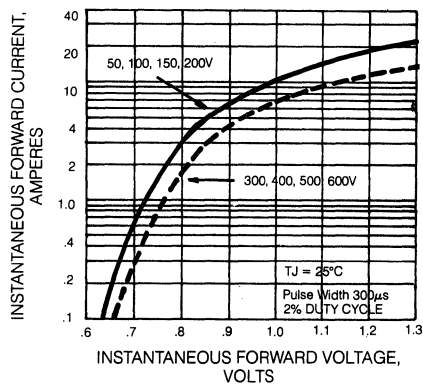
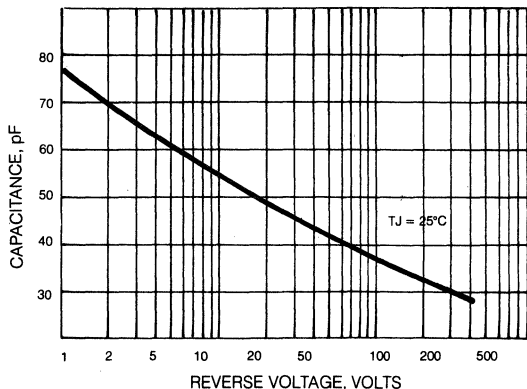


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



GI1401 THRU GI1404

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-202
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery times, high voltage

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

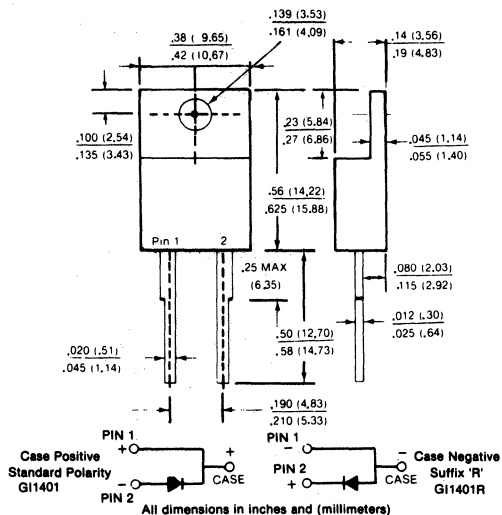
VOLTAGE RANGE

50 to 200 Volts

CURRENT

8.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

	GI1401	GI1402	GI1403	GI1404	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Current at T _c = 125°C	8.0				A
Peak Forward Surge Current, 8.3ms single half wave-wave superimposed on rated load (JEDEC method)	125				A
Maximum Instantaneous Forward Voltage I _F = 4A, T _J = 100°C I _F = 8A, T _J = 100°C I _F = 4A, T _J = 25°C I _F = 8A, T _J = 25°C	.800 .895 .900 .975				V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 25°C T _J = 100°C	5.0 150				μA
Typical Junction Capacitance (Note 1)	65				pF
Maximum Reverse Recovery Time (Note 2)	35				ns
Maximum Thermal Resistance R _{θJC} (Note 3)	2.5				°C/W
Storage and Operating Temperature Range T _c , T _{stg}	-65 to +150				°C

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.

3. Thermal Resistance Junction to Case.

RATING AND CHARACTERISTIC CURVES
GI1401 THRU GI1404

Fig. 1—FORWARD CURRENT DERATING CURVE

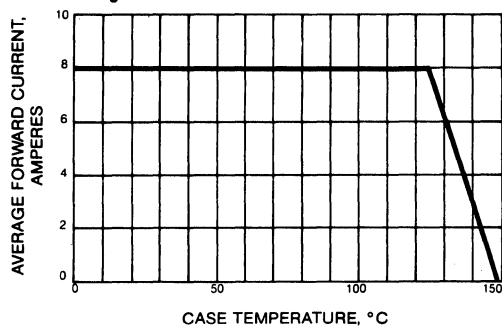


Fig. 3 — TYPICAL REVERSE CHARACTERISTICS

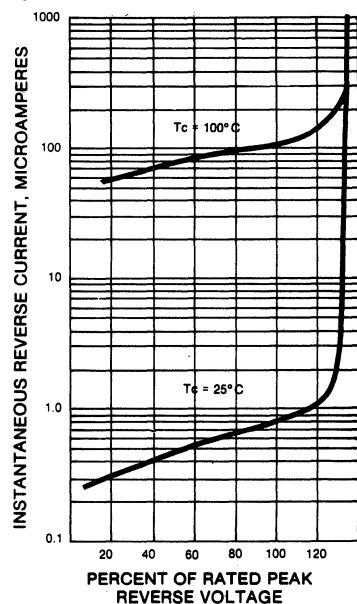


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

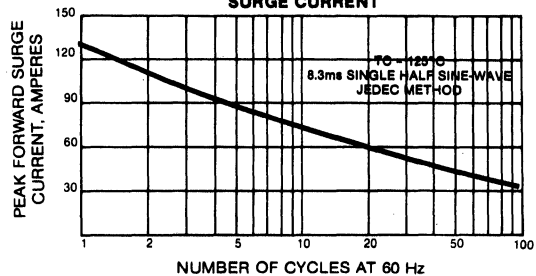


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

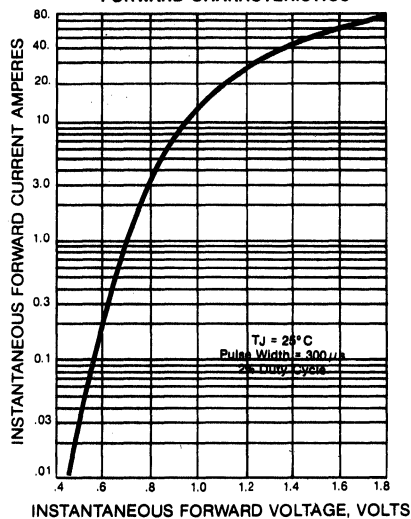
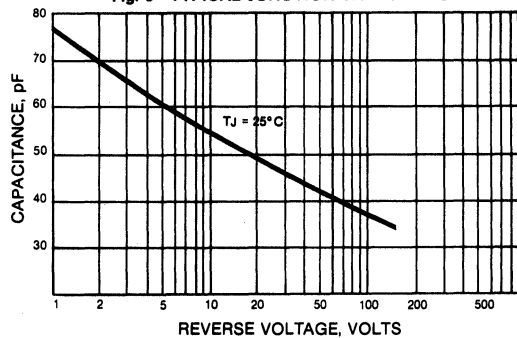


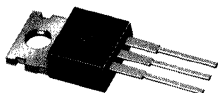
Fig. 5—TYPICAL JUNCTION CAPACITANCE



SGI5401 THRU SGI5404

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Glass Passivated junction
- Plastic package has Underwriters Laboratory Flamability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Very fast recovery time, high voltage

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD 202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

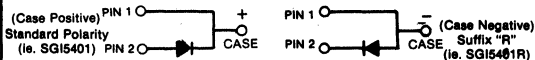
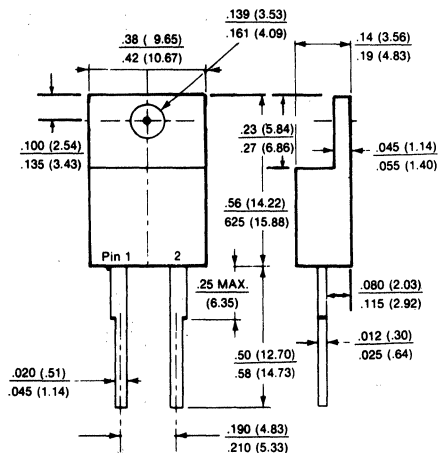
VOLTAGE RANGE

50, 100, 150, 200 Volts

CURRENT

8.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SGI5401	SGI5402	SGI5403	SGI5404	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Current T _c = 125°C T _A = 25°C	8.0 3.0				A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125				A
Maximum Forward Voltage @ 8.0ADC T _J = 25°C T _J = 100°C	1.025 0.945				V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 25°C T _J = 100°C	5.0 150.0				μA
Maximum Reverse Recovery Time (Note 1)	100.0				ns
Maximum Thermal Resistance RθJC (Note 2)	2.5				°C/W
Storage and Operating Temperature Range, T _J	-65 to +150				°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A
2. Thermal Resistance Junction to Case

RATING AND CHARACTERISTIC CURVES
SGI5401 thru SGI5404

Fig. 1— FORWARD CURRENT DERATING CURVE

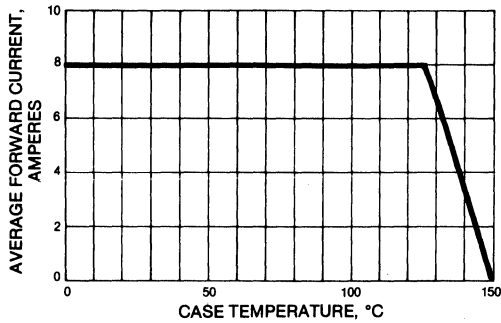


Fig. 2— TYPICAL REVERSE CHARACTERISTICS

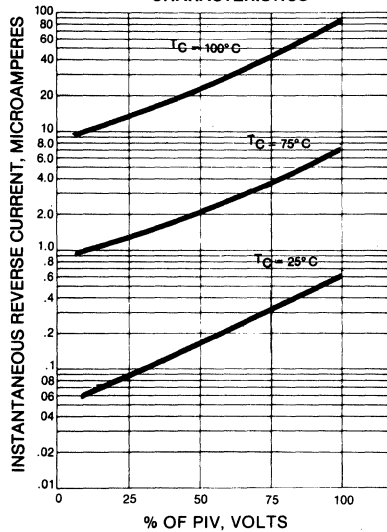


Fig. 3— MAXIMUM NON-REPETITIVE SURGE CURRENT

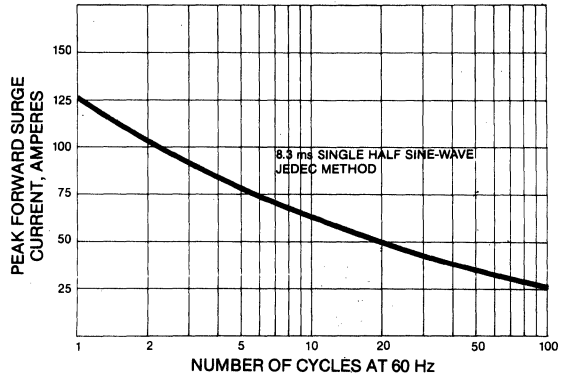


Fig. 4— TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

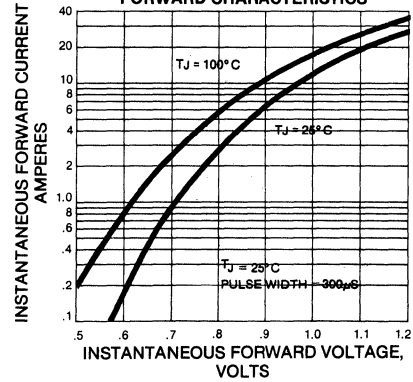
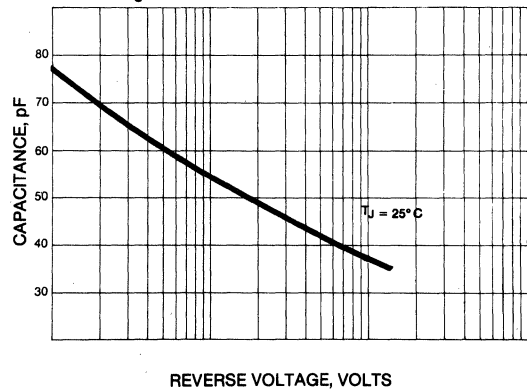


Fig. 5— TYPICAL JUNCTION CAPACITANCE



FES16AT THRU FES16JT

FAST EFFICIENT GLASS PASSIVATED RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Glass Passivated Junctions
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery time, high voltage

MECHANICAL DATA

Case: TO-220 molded plastic
Terminals: Lead solderable per MIL-STD-202, Method 208
Polarity: As marked
Mounting position: Any
Weight: .08 ounces, 2.24 grams

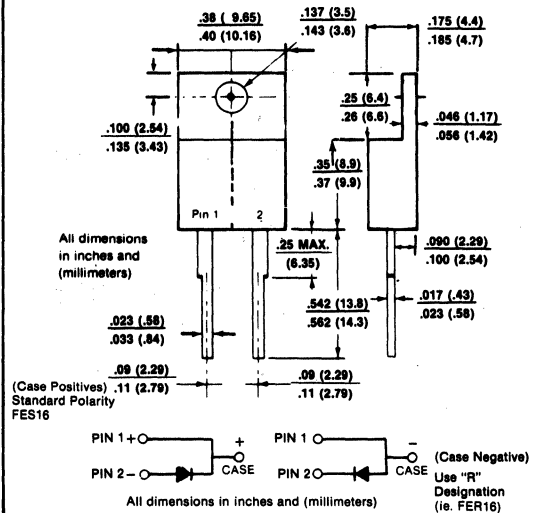
VOLTAGE RANGE

50 to 600 Volts

CURRENT

16 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	FES 16AT	FES 16BT	FES 16CT	FES 16DT	FES 16FT	FES 16GT	FES 16HT	FES 16JT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at Tc = 100°C	16.0								A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	250								A
Maximum Instantaneous Forward Voltage at 16A	.975				1.3				V
Maximum DC Reverse Current at Rated DC Blocking Voltage per element Tc = 25°C Tc = 100°C	10 500								μA μA
Typical Junction Capacitance (Note 1)	150								pF
Maximum Reverse Recovery Time (Note 2)	35								ns
Thermal Resistance RθJC (Note 3)	1.5								°C/W
Storage and Operating Temperature Range Tc, Tstg	-65 to +150								°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: IF = .5A, IR = 1.0A, Irr = .25A.

3. Thermal Resistance Junction to CASE.

**RATING CHARACTERISTIC CURVES
FES16AT THRU FES16JT**

Fig. 1 — FORWARD CURRENT DERATING CURVE

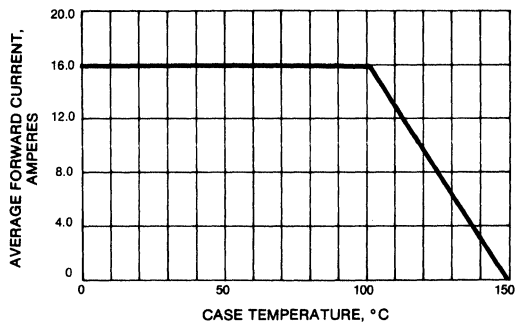


FIG. 2—TYPICAL REVERSE CHARACTERISTICS

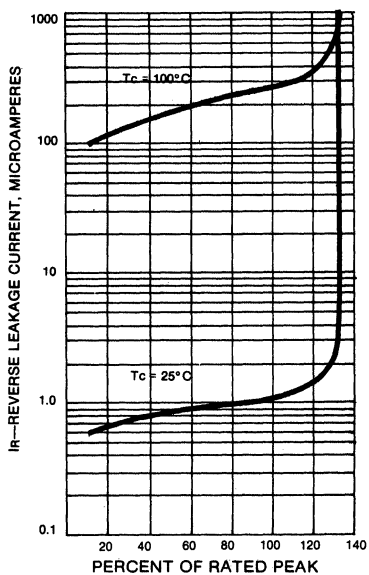


FIG.3—MAXIMUM NON-REPETITIVE SURGE CURRENT

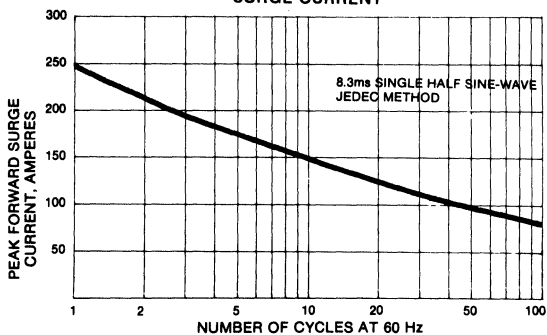


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

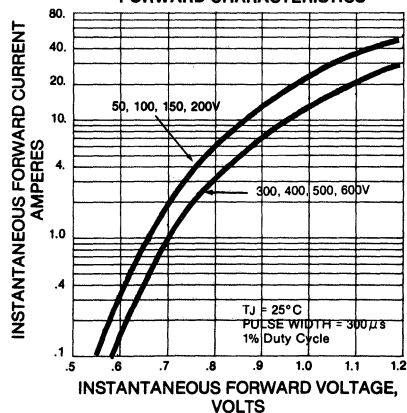
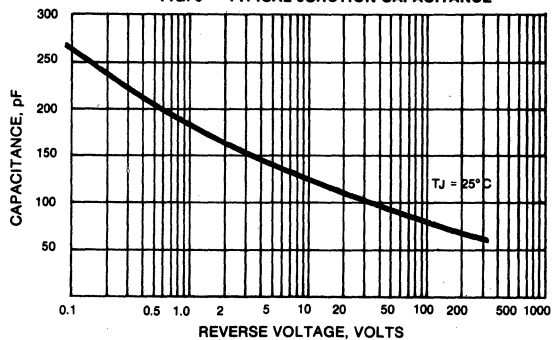


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SGI5401C THRU SGI5404C

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Exceeds environmental standards of MIL-STD-19500
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Very fast recovery times, high voltage
- Dual rectifier construction, positive center-tap

MECHANICAL DATA

Case: TO-220 molded plastic
Terminals: Lead solderable per MIL-STD 202, Method 208

Polarity: As marked
Mounting position: Any
Weight: .08 ounces, 2.24 grams

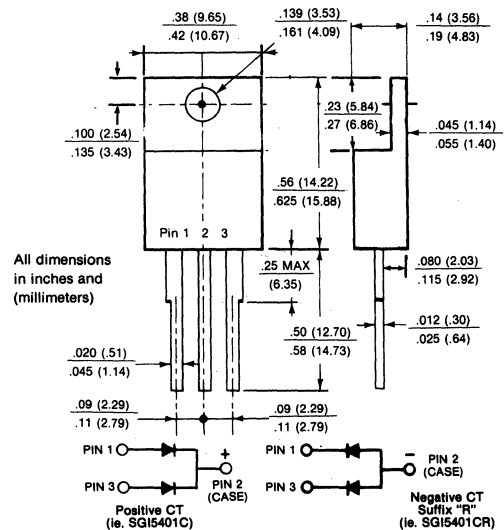
VOLTAGE RANGE

50, 100, 150, 200 Volts

CURRENT

16 Amperes

TO-220 CT



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SGI5401C	SGI5402C	SGI5403C	SGI5404C	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Tc = 125° C Current TA = 25° C	16.0 3.0				A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200				A
Maximum Forward Voltage @ 8A TJ = 25° C per element TJ = 100° C	1.025 0.945				V
Maximum Average Reverse Current at Rated DC Blocking Voltage TJ = 25° C per element TJ = 100° C	5.0 150.0				μA
Maximum Reverse Recovery Time (Note 1)	100.0				ns
Maximum Thermal Resistance RθJC (Note 2)	1.75				°C/W
Storage and Operating Temperature Range, TJ	-65 to +150				°C

NOTES:

1. Reverse Recovery Test Conditions: If = .5A, Ir = 1A, Irr = .25A
2. Thermal Resistance Junction to Case

RATING CHARACTERISTIC CURVES
SGI5401C thru SGI5404C

Fig. 1—FORWARD CURRENT DERATING CURVE

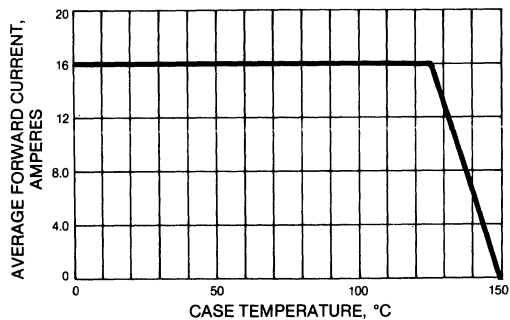


Fig. 2—TYPICAL REVERSE CHARACTERISTICS

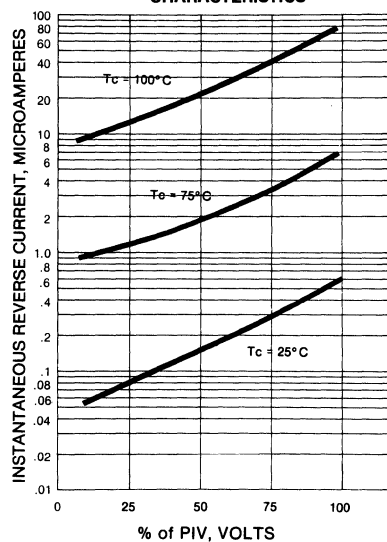


Fig. 3—MAXIMUM NON-REPETITIVE SURGE CURRENT

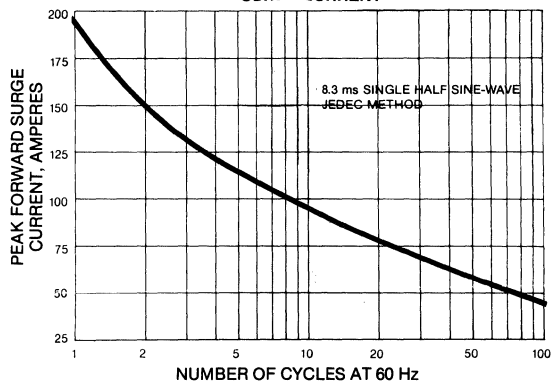


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

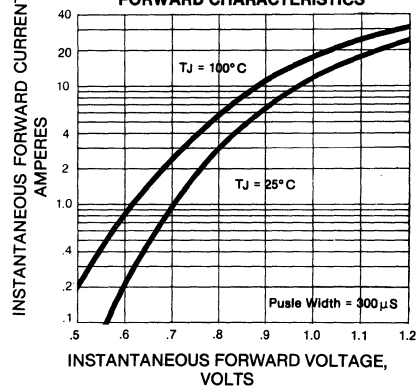
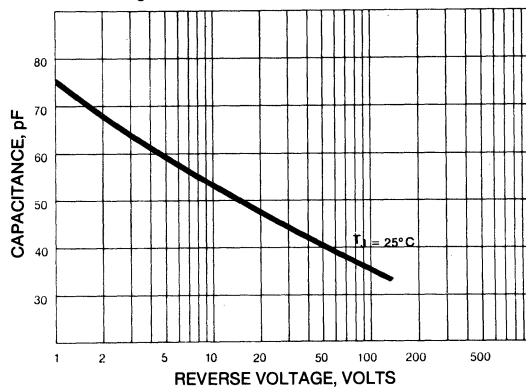


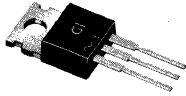
Fig. 5—TYPICAL JUNCTION CAPACITANCE



FEP16-T SERIES

FAST EFFICIENT GLASS PASSIVATED RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Glass Passivated Junctions
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery times, high voltage
- Dual rectifier construction, positive center-tap
- High temperature soldering guaranteed: [300°C, .25", 6.35 mm from case for 10 seconds.]

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD 202, Method 208

Polarity: As marked

Mounting position: Any

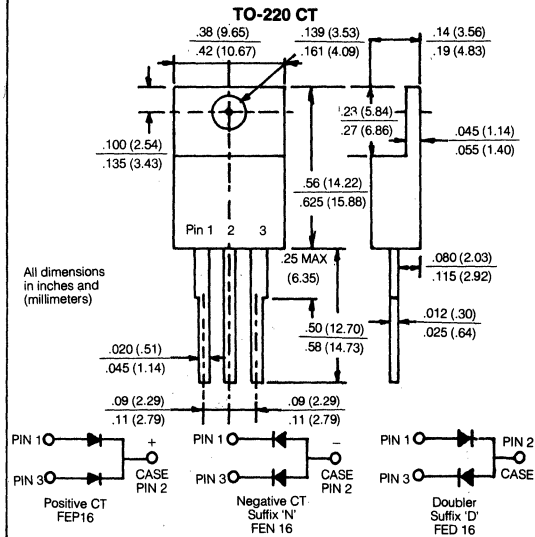
Weight: .08 ounces, 2.24 grams

VOLTAGE RANGE

50 to 600 Volts

CURRENT

16 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	FEP16AT	FEP16BT	FEP16CT	FEP16DT	FEP16FT	FEP16GT	FEP16HT	FEP16JT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at Tc = 100°C	16.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	200								A
Maximum Forward Voltage at 8.0A per element	0.95				1.3				V
Maximum DC Reverse Current at Rated DC Blocking Voltage per element Tc = 25°C Tc = 100°C	10 500								μA μA
Typical Junction Capacitance (Note 1)	65								pF
Maximum Reverse Recovery Time (Note 2)	35								ns
Typical Thermal Resistance RθJC (Note 3)	3.0								°C/W
Storage and Operating Temperature Range Tj	−65 to +150								°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A

3. Thermal Resistance Junction to CASE, Per Element.

**RATING CHARACTERISTIC CURVES
FES8AT THRU FES8JT**

FIG. 1 — FORWARD CURRENT DERATING CURVE

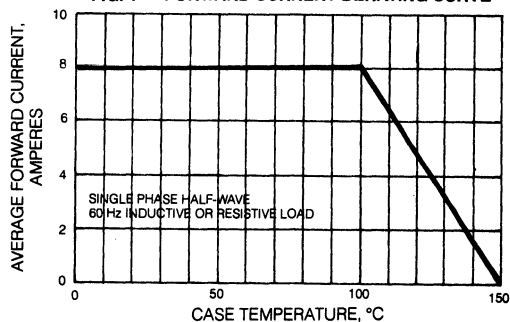
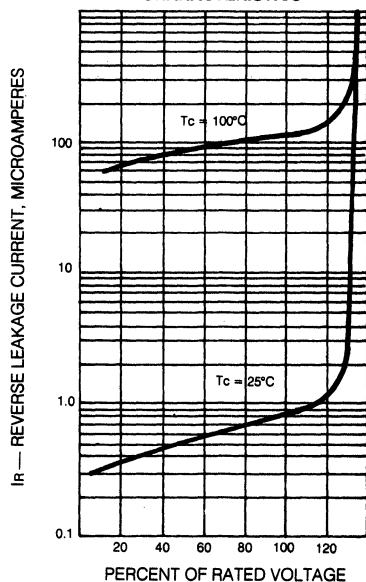
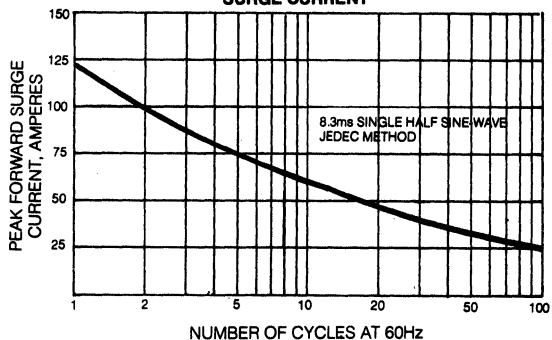


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS



**FIG. 3 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**



**FIG. 4 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**

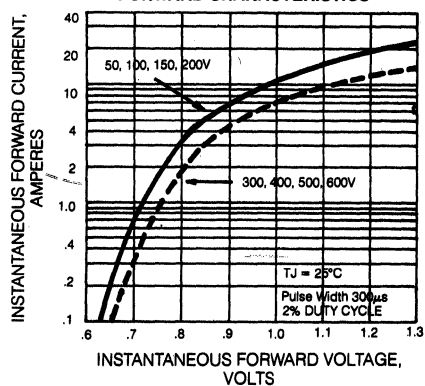
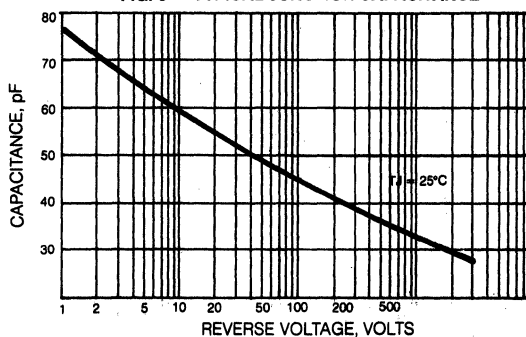


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



FEP30-P SERIES

FAST EFFICIENT GLASS PASSIVATED RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junctions
- Exceeds environmental standards of MIL-STD-19500
- Superfast recovery times, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency
- High temperature soldering guaranteed: 300°C, .17", 4.3mm from case for 10 seconds.

MECHANICAL DATA

Case: TO-3P

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

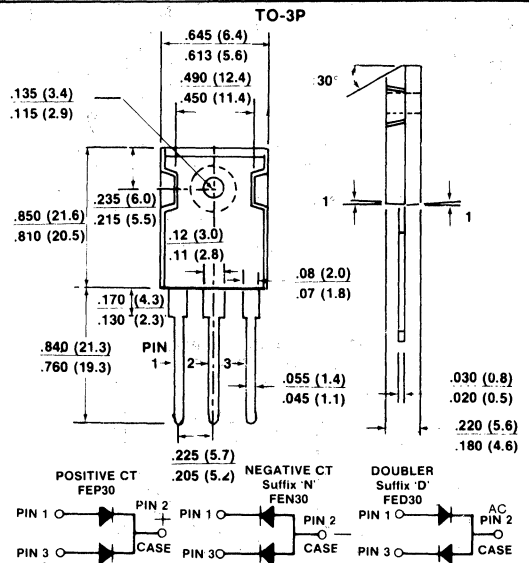
Weight: .47 ounces, 13.2 grams

VOLTAGE RANGE

50 to 600 Volts

CURRENT

30 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	FEP30AP	FEP30BP	FEP30CP	FEP30DP	FEP30FP	FEP30GP	FEP30HP	FEP30JP	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	Vpk
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at Tc = 100°C	30								A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300								A
Maximum Instantaneous Forward Voltage at 15A per element	0.95				1.3				V
Maximum DC Reverse Current at Rated DC Blocking Voltage per element Tc = 25°C Tc = 100°C					10 500				μA μA
Typical Junction Capacitance (Note 1)					150				pF
Maximum Reverse Recovery Time (Note 2)					35				ns
Maximum Thermal Resistance RθJC (Note 3)					1.0				°C/W
Storage and Operating Temperature Range Tc					-65 to +150				°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: IF = 5A, IR = 1A, Irr = .25A.

3. Thermal Resistance Junction to CASE, Per Element.

**RATING CHARACTERISTIC CURVES
FEP30AP THRU FEP30JP**

FIG. 1 — FORWARD CURRENT DERATING CURVE

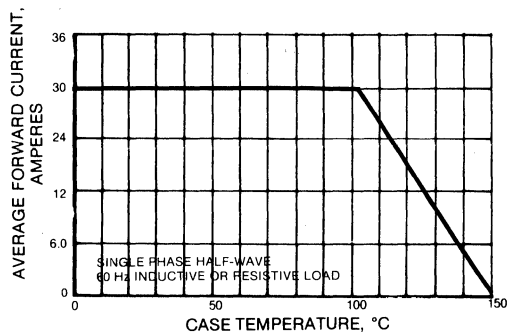
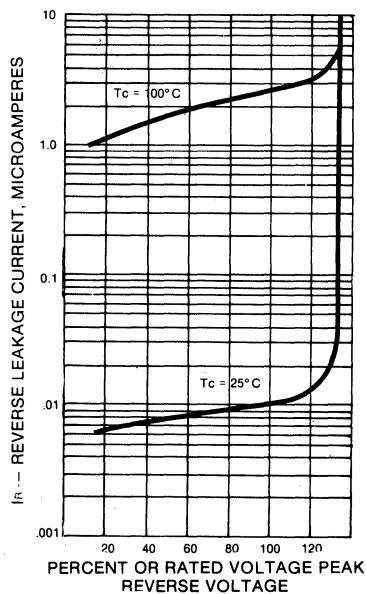
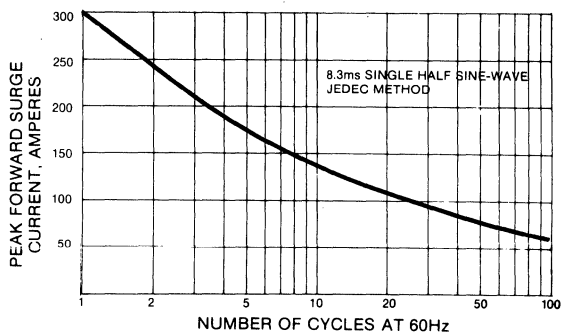


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS



**FIG. 3 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**



**FIG. 2 — TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS**

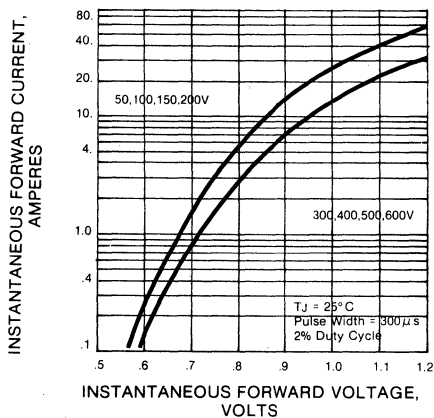
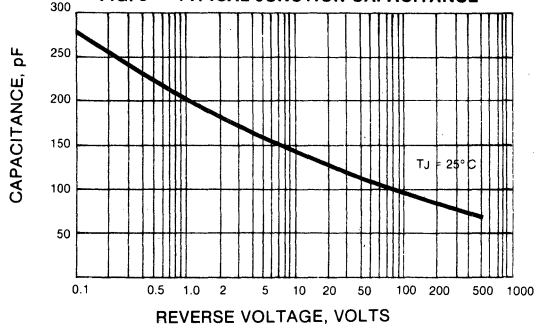


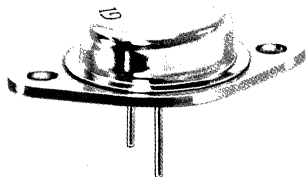
FIG. 5 — TYPICAL JUNCTION CAPACITANCE



FEP30-M SERIES

FAST EFFICIENT GLASS PASSIVATED RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Convenient, mechanically regged; hermetically sealed package
- Glass passivated junctions
- Exceeds environmental standards of MIL-STD-19500
- Super fast recovery times, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency
- High temperature soldering guaranteed for 300°C for 10 seconds

MECHANICAL DATA

Case: TO-3

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting Position: Any

Weight: .47 ounces, 13.2 grams

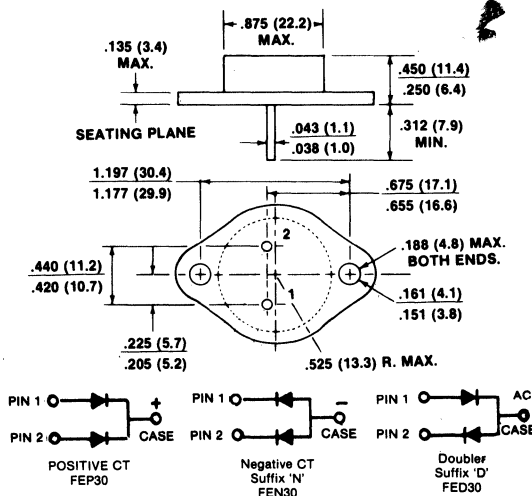
VOLTAGE RANGE

50 to 600 Volts

CURRENT

30 Amperes

TO-3



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	FEP 30AM	FEP 30BM	FEP 30CM	FEP 30DM	FEP 30FM	FEP 30GM	FEP 30HM	FEP 30JM	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	Vpk
Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at Tc = 100° C	30								A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300								A
Maximum Instantaneous Forward Voltage at 15A per element	0.95				1.3				V
Maximum DC Reverse Current at Rated DC Blocking Voltage per element Tc = 25° C Tc = 100° C	10 500								μA μA
Typical Junction Capacitance (Note 1)	150								pF
Maximum Reverse Recovery Time (Note 2)	35								ns
Typical Thermal Resistance RθJC (Note 3)	1.4								°C/W
Storage and Operating Temperature Range Tc	-65 to +150								°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, irr = .25A.

3. Thermal Resistance Junction to CASE, Per Element.

**RATING CHARACTERISTIC CURVES
FEP30AM THRU FEP30JM**

FIG. 1 — FORWARD CURRENT DERATING CURVE

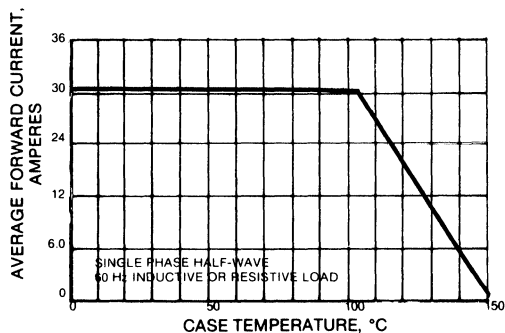
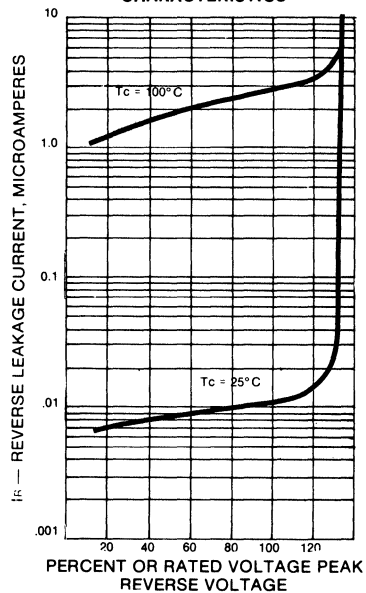


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS



**FIG. 3 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**

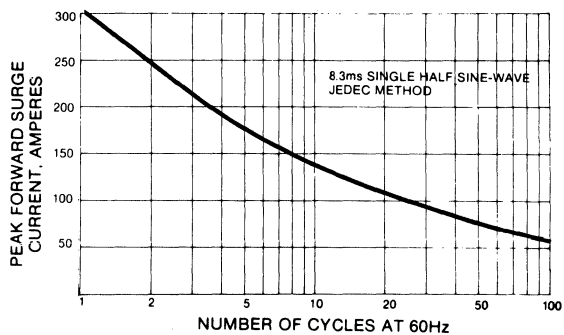


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

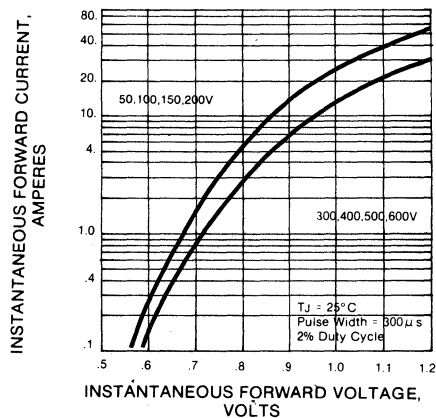
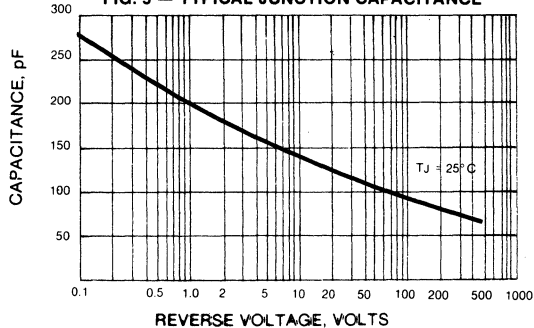
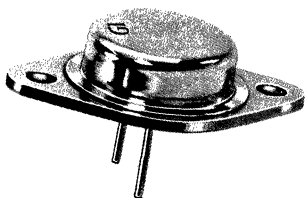


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



GLASS PASSIVATED FAST EFFICIENT RECTIFIER

GENERAL INSTRUMENT



- Glass passivated junction
- Dual rectifier construction
- Convenient, mechanically rugged, hermetically sealed package
- Exceeds environmental standards of MIL-STD-19500
- Super fast recovery times, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency

Case: TO-3
Terminals: Lead solderable per MIL-STD-202,
Method 208
Polarity: As marked
Mounting position: Any
Weight: .47 ounces, 13.2 grams

30 Amperes

Top View Dimensions:

- Overall width: .875 (22.2) MAX.
- Overall height: .450 (11.4)
- Bottom flange thickness: .250 (6.4)
- Seating plane to top of body: .135 (3.4) MAX.
- Seating plane to bottom of body: .043 (1.1)
- Bottom flange to bottom of body: .038 (1.0)
- Seating plane to bottom of body: .312 (7.9) MIN.
- Pin 1 to center: .197 (30.4)
- Pin 2 to center: .177 (29.9)
- Pin 1 to pin 2: .675 (17.1)
- Pin 1 to center (dashed circle): .655 (16.6)
- Pin 2 to center (dashed circle): .655 (16.6)
- Pin 1 to pin 2 (dashed circle): .675 (17.1)
- Pin 1 to center (dashed circle): .188 (4.8) MAX. BOTH ENDS.
- Pin 2 to center (dashed circle): .161 (4.1)
- Pin 1 to pin 2 (dashed circle): .151 (3.8)
- Pin 1 to center (dashed circle): .225 (5.7)
- Pin 2 to center (dashed circle): .205 (5.2)
- Pin 1 to pin 2 (dashed circle): .525 (13.3) R. MAX.

Side View Dimensions:

- Overall height: .450 (11.4)
- Bottom flange thickness: .250 (6.4)
- Seating plane to top of body: .135 (3.4) MAX.
- Seating plane to bottom of body: .043 (1.1)
- Bottom flange to bottom of body: .038 (1.0)
- Seating plane to bottom of body: .312 (7.9) MIN.

Pin Connection Diagrams:

Positive CT (Standard Polarity)

PIN 1 AC → (+) CASE

PIN 2 AC → (+) CASE

Negative CT (Add suffix "R", ie. G12601R)

PIN 1 AC → (-) CASE

PIN 2 AC → (-) CASE

All dimensions in inches and (millimeters)

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI2601	GI2602	GI2603	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	V _{pk}
Maximum RMS Voltage	35	70	105	V
Maximum DC Blocking Voltage	50	100	150	V
Maximum Average Forward Rectified Current at T _c = 100°C	30			A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	400			A
Maximum Instantaneous Forward Voltage per Leg I _f = 15A, T _c = 125°C	.825			V
I _f = 15A, T _c = 25°C	.930			V
Maximum DC Reverse Current at Rated DC Blocking Voltage per element T _J = 25°C T _J = 125°C	20 4.0			μA mA
Typical Junction Capacitance (Note 1)	150			pF
Maximum Reverse Recovery Time (Note 2)	35			ns
Maximum Thermal Resistance R _{θJC} (Note 3)	1.0			°C/W
Storage and Operating Temperature Range T _c , T _{STG}	-65 to +175			°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5A$, $I_R = 1A$, $I_{rr} = .25A$.
3. Thermal Resistance Junction to Case.

**RATING CHARACTERISTIC CURVES
GI2601 THRU GI2603**

Fig. 1—FORWARD CURRENT DERATING CURVE

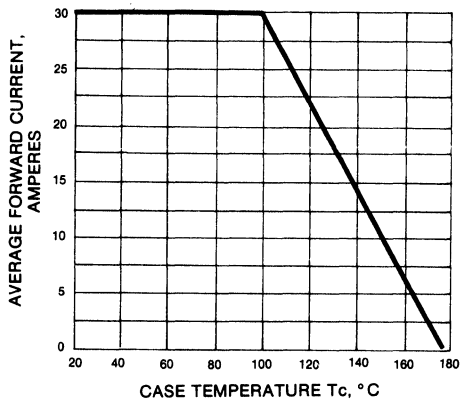


FIG. 3—TYPICAL REVERSE CHARACTERISTICS

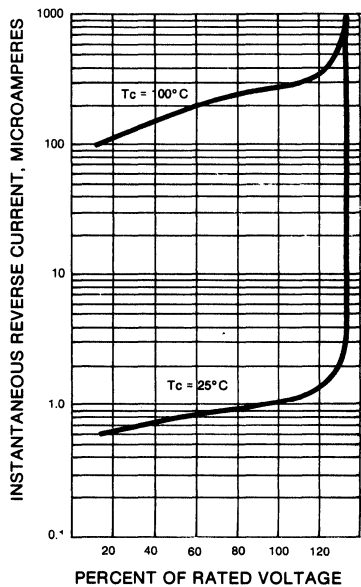


Fig. 3—MAXIMUM NON-REPETITIVE
SURGE CURRENT

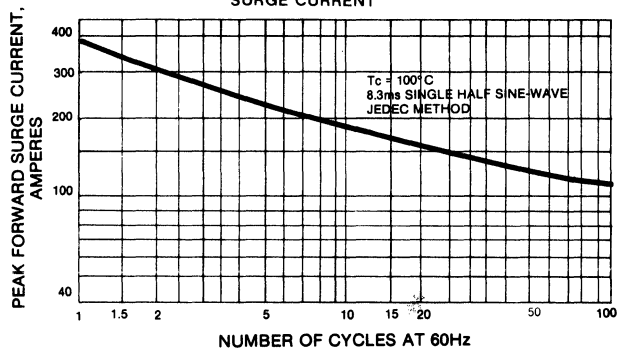


Fig. 4—TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

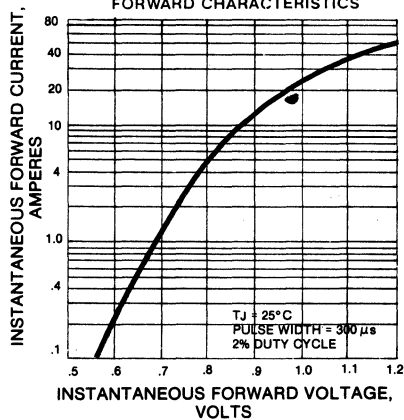
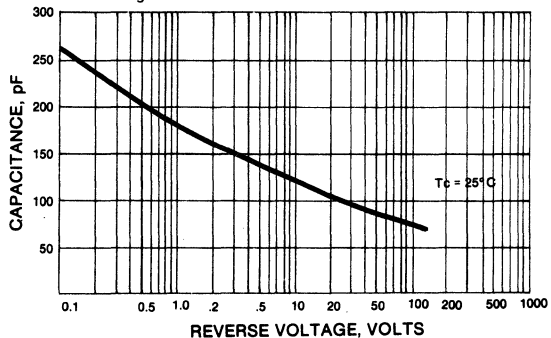


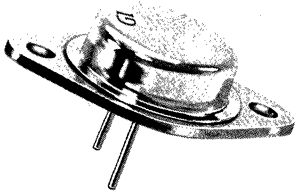
Fig. 5—TYPICAL JUNCTION CAPACITANCE



SGI5601C THRU SGI5604C

GLASS PASSIVATED FAST EFFICIENT RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- Convenient, mechanically rugged, hermetically sealed package
- Exceeds environmental standards of MIL-STD-19500
- Very fast recovery times, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency

MECHANICAL DATA

Case: TO-3

Terminals: Lead solderable per MIL-STD 202, Method 208

Polarity: As marked

Mounting position: Any

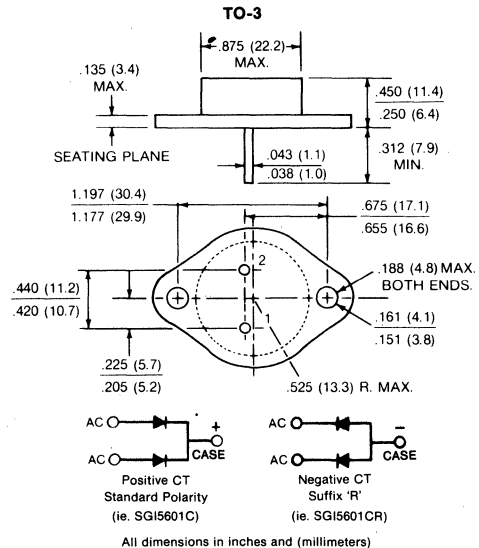
Weight: .47 ounces, 13.2 grams

VOLTAGE RANGE

50, 100, 150, 200 Volts

CURRENT

25 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SGI5601C	SGI5602C	SGI5603C	SGI5604C	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Current at T _c = 100° C	25				A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	400				A
Maximum Forward Voltage at 12.5ADC T _c = 25° C per element T _c = 125° C	0.990 0.830				V
Maximum Average Reverse Current at Rated DC Blocking Voltage per element T _c = 25° C T _c = 125° C	20.0 4.0				μ A mA
Maximum Reverse Recovery Time (Note 1)	100				ns
Maximum Thermal Resistance RθJC (Note 2)	1.0				°C/W
Storage and Operating Temperature Range, T _j	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A
2. Thermal Resistance Junction to Case

RATING CHARACTERISTIC CURVES
SGI5601C thru SGI5604C

Fig. 1—FORWARD CURRENT DERATING CURVE

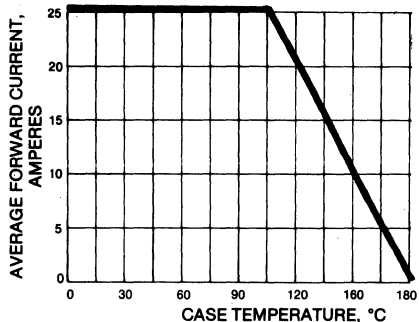


Fig. 2—TYPICAL REVERSE CHARACTERISTICS

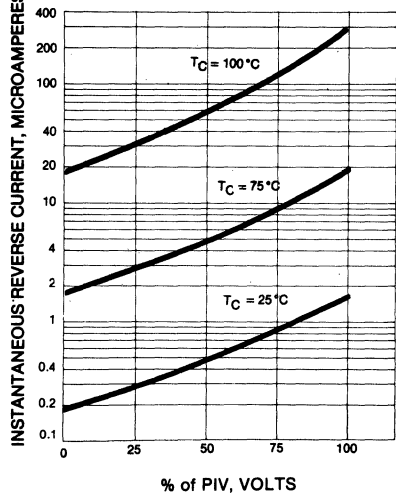


Fig. 3—MAXIMUM NON-REPETITIVE SURGE CURRENT

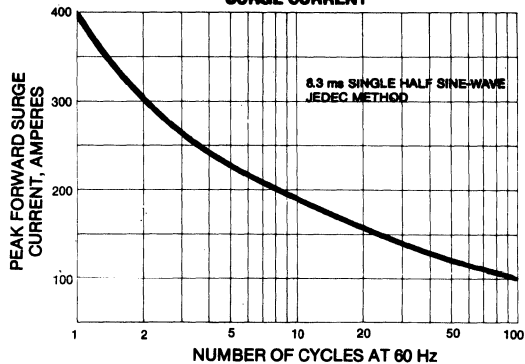


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

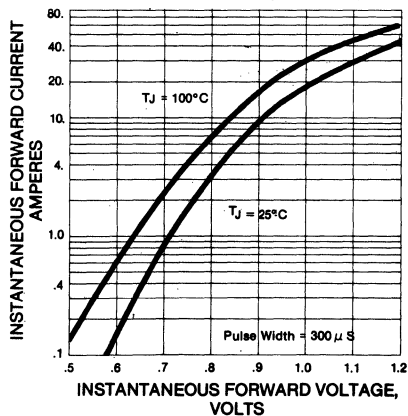
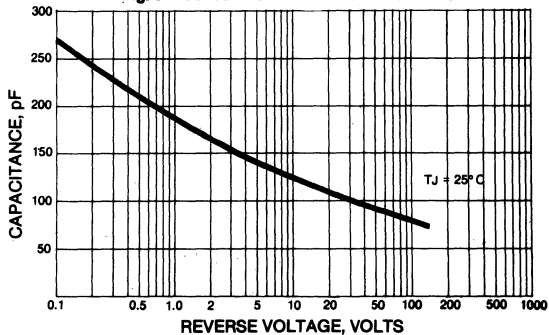


Fig. 5—TYPICAL JUNCTION CAPACITANCE



GI2401 THRU GI2404

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Super fast recovery times, high voltage
- Dual rectifier construction

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202 Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

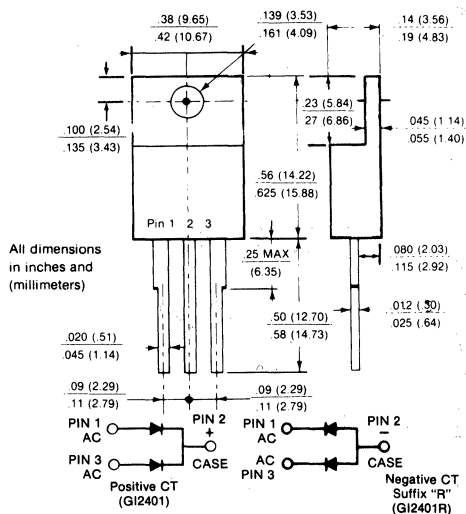
VOLTAGE RANGE

50 to 200 Volts

CURRENT

16 Amperes

TO-220 CT



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings and 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI2401	GI2402	GI2403	GI2404	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Current at T _c = 125°C	16.0				A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125				A
Maximum Instantaneous Forward Voltage I _F = 4A, T _J = 100°C I _F = 8A, T _J = 100°C I _F = 4A, T _J = 25°C I _F = 8A, T _J = 25°C	.800 .895 .900 .975				V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 25°C T _J = 100°C	5.0 150			5.0 500	μA
Typical Junction Capacitance (Note 1)	65				pF
Maximum Reverse Recovery Time (Note 2)	35				ns
Maximum Thermal Resistance R _{ΘJC} (Note 3)	1.75				°C/W
Storage and Operating Temperature Range T _c , T _{STG}	-65 to +150				°C

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: I_F = .5A, I_R = 1A, I_{rr} = .25A.

3. Thermal Resistance from Junction to Case.

RATING CHARACTERISTIC CURVES
GI2401 THRU GI2404

Fig. 1—FORWARD CURRENT DERATING CURVE

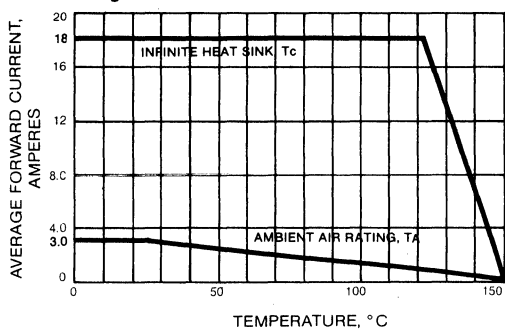


Fig. 3 — TYPICAL REVERSE CHARACTERISTICS

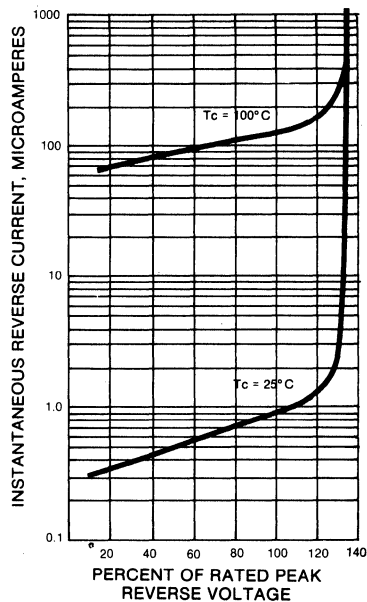


Fig. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

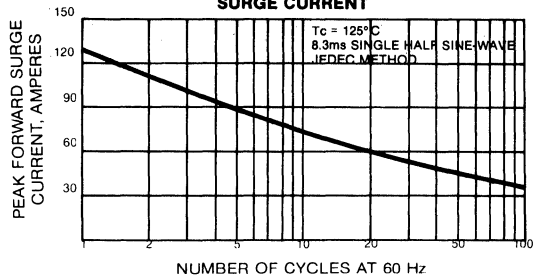


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

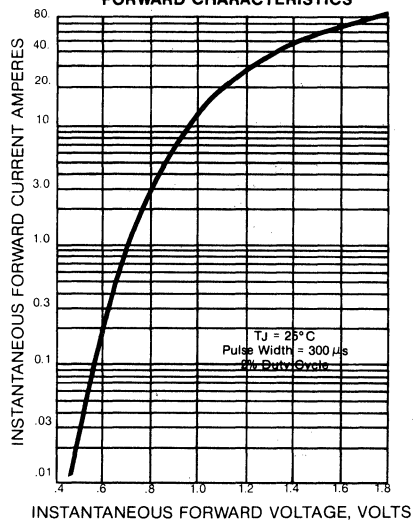
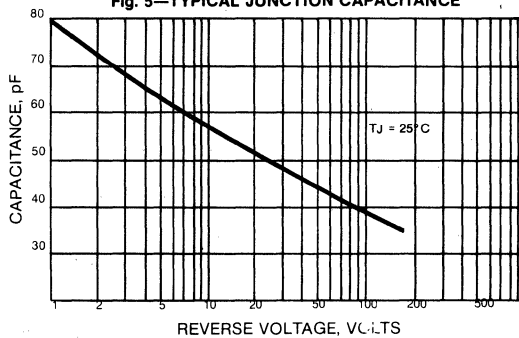


Fig. 5—TYPICAL JUNCTION CAPACITANCE



RATING CHARACTERISTIC CURVES
GI2604 THRU GI2606

FIG. 1 — FORWARD CURRENT DERATING CURVE

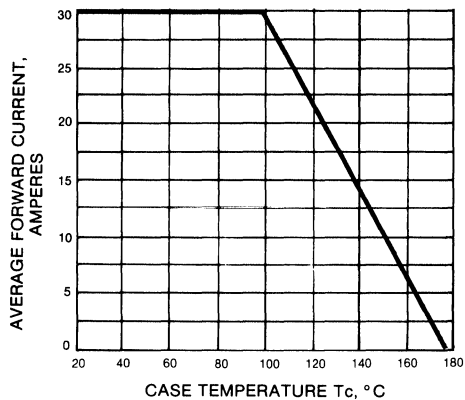


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

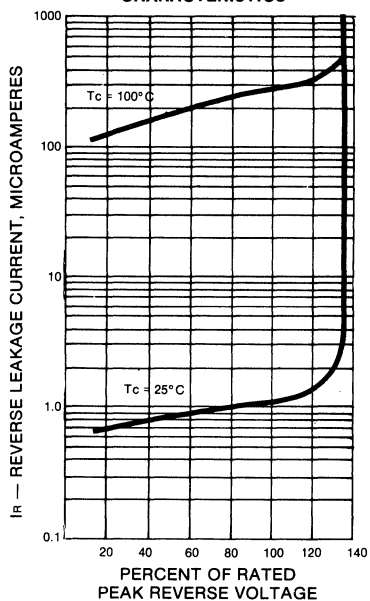


FIG. 3 — MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

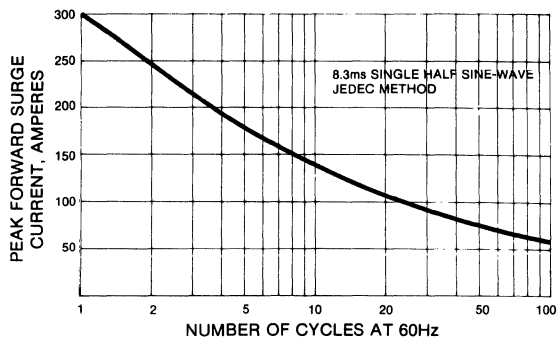


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

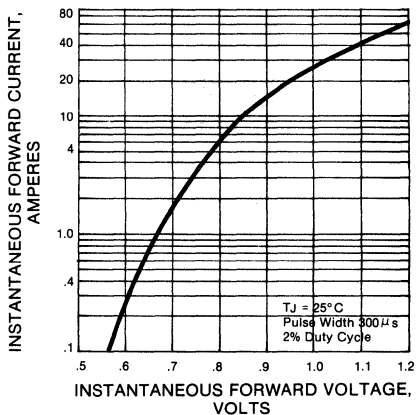
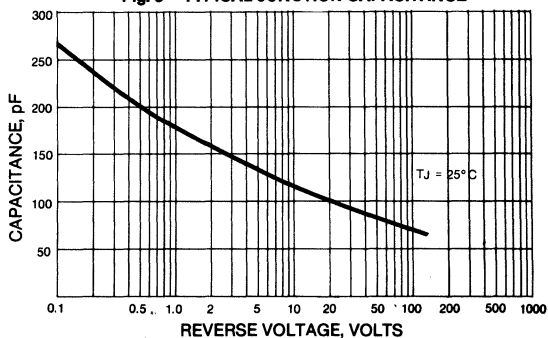


Fig. 5 — TYPICAL JUNCTION CAPACITANCE

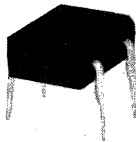


FAST EFFICIENT RECTIFIER BRIDGES 1 AMPERE

EDF-M SERIES

MINIATURE GLASS PASSIVATED SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- Plastic material used carries Underwriters Laboratory recognition
- Glass passivated junctions
- Surge overload rating—50 amperes peak
- Ideal for printed circuit board
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 300°C/10 seconds at 5 lbs., (2.3kg) tension

MECHANICAL DATA

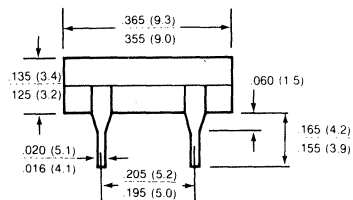
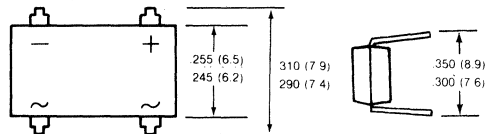
Case: Reliable low cost construction utilizing molded plastic technique results in inexpensive product
 Terminals: Lead solderable per MIL-STD-202 Method 208
 Polarity: Polarity symbols molded on body
 Mounting Position: Any
 Weight: 0.04 ounce, 1.0 gram

VOLTAGE RANGE

50 to 200 Volts

CURRENT

1.0 Ampere



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	EDF1AM	EDF1BM	EDF1CM	EDF1DM	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Bridge Input Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Output Current $T_A = 40^\circ\text{C}$	1.0				A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	50.0				A
I^2t Rating for fusing ($t < 8.35\text{ms}$)	10.0				A ² t
Maximum Instantaneous Forward Voltage Drop per Bridge Element at 1.0A	1.05				V
Maximum Reverse Current at rated DC Blocking Voltage per Element	5.0 1.0				μA mA
Maximum Reverse Recovery Time (Note 1)	50				ns
Operating and Storage Temperature T_J, T_{STG}	-55 to +150				°C

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES **EDF-M SERIES**

FIG. 1 — MAXIMUM NON-REPETITIVE SURGE CURRENT

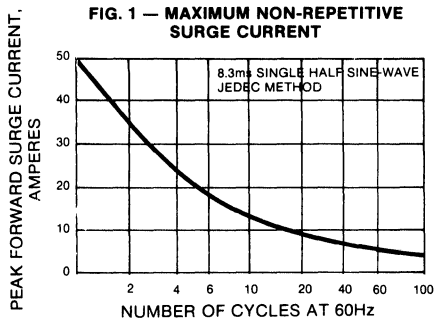


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

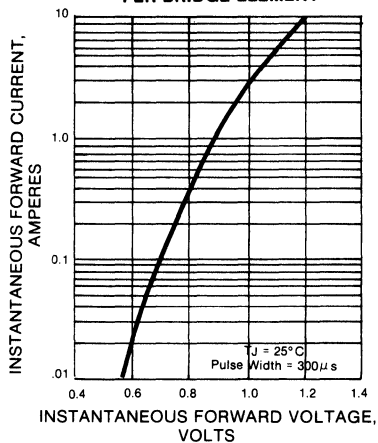


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

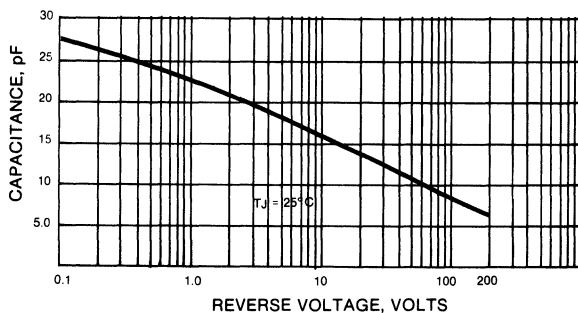


FIG. 2 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

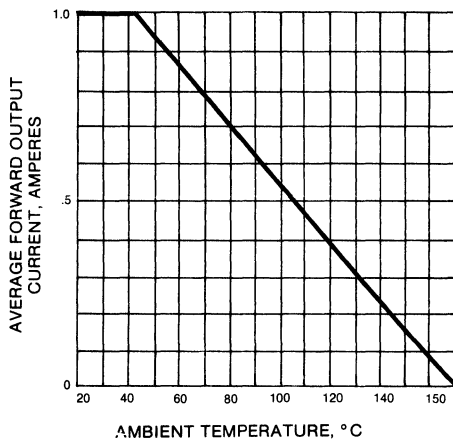
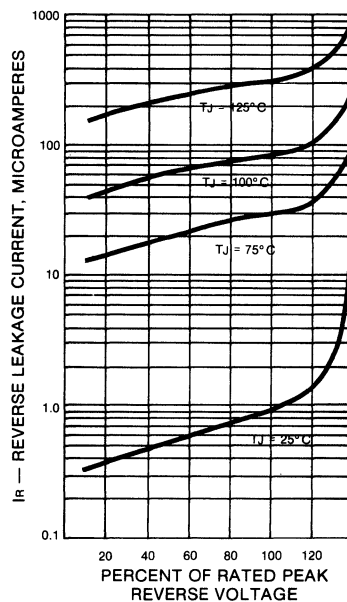


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT



**GLASS PASSIVATED PLASTIC
RECTIFIERS
0.25 TO 3.0 AMPERES**

Introduction

No other 1 to 3 Amp rectifier — plastic, glass, or metal — can match (or even approach) SUPERECTIFIER's combination of features...the result of General Instrument's unique glass-plastic construction:

- Brazed at greater than 600°C at both leads and cell — eliminates all soft solders
- Exclusive UL recognized *flame-retardant* epoxy molding compound rated 94V-0, the highest available
- Patented glass passivation
- Reliability proved equal to military requirements
- Hermetically sealed construction
- Cost effective construction

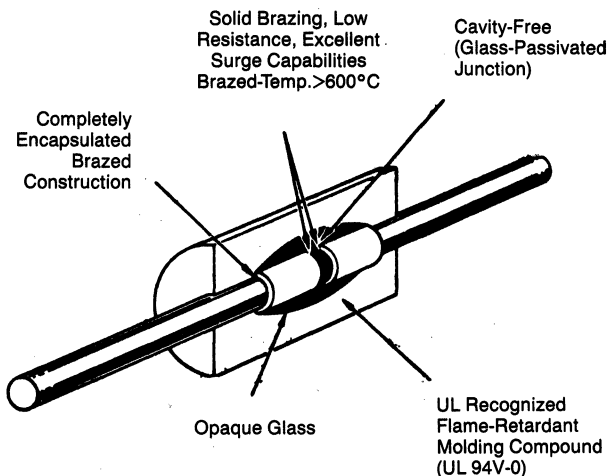
General Instrument's SUPERECTIFIER is exactly that...a super rectifier. There is nothing else in the world like it.

In cell construction, most other rectifiers rated up to 3 Amps are soft soldered or are only pressure contacted. SUPERECTIFIER is made into an entirely solid unit with its leads and cell brazed at temperatures greater than 600°C. All other rectifiers fail at half that temperature.

In cell protection, conventional plastic rectifiers use either varnish, silicon rubber or a thin film of silicon oxide to protect the junction. SUPERECTIFIER uses a patented glass passivation to seal its junction hermetically.

In device encapsulation, again SUPERECTIFIER is the only one that won't go up in flames. It is one of the few rectifiers using an exclusive flame-RETARDANT molding compound, rated UL 94V-0, the highest rating available. Other plastic rectifiers use flame-ENHANCING compounds. Here again, SUPERECTIFIER's superiority is manifest. With this construction it exceeds environmental standards of MIL-STD-19500.

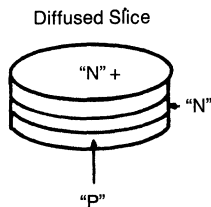
In summary, SUPERECTIFIER is the world's only rectifier with totally brazed construction, with a patented glass passivated junction, and with flame-retardant molding encapsulation.



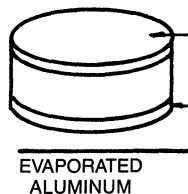


GLASS RECTIFIER PROCESS

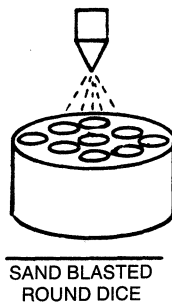
1—Diffuse a PN junction into a slice of silicon.



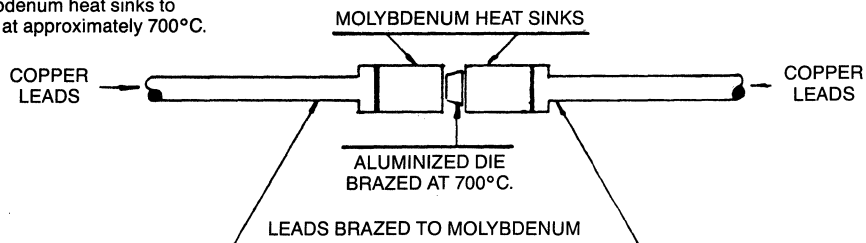
2—Evaporate aluminum on both sides of the slice to make metallurgical contact.



3—Sandblast the slice to produce a round beveled die.



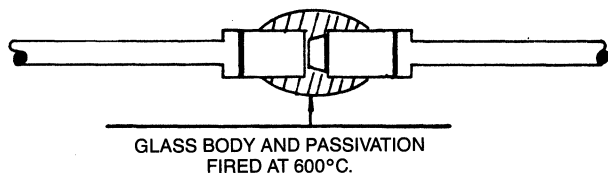
4—Braise the die between two molybdenum heat sinks to which leads have been attached at approximately 700°C.



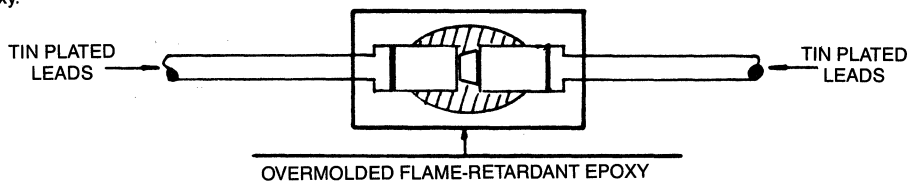


GLASS RECTIFIER PROCESS

- 5—Clean the assembly by chemically etching, washing and drying.
- 6—Apply glass in the form of a frit to the die and molybdenum assembly.
- 7—Melt the glass by heating in an oven to approximately 600°C.



- 8—Overmold glass passivated construction with UL recognized flame-retardant 94V-0 classification epoxy.



- 9—Perform finishing operations such as lead tinning, electrical testing and marking.

Package Design

The small size of the superectifier package with its capability up to 3 Amperes permits greater packing densities in electronic assemblies and equipment, while increasing reliability. Furthermore, only high temperature brazing operations are used to withstand the 600°C required to melt and fuse the glass. This technique eliminates solder construction and tremendously enhances mechanical strength and temperature cycling capability, increasing operating and storage temperature range while reducing thermal resistance.

Reliability

Specified reliability data on Superectifier devices are available from the General Instrument Semiconductor Components Division Reliability Department. The basic design of the superectifier devices and the strict positive controls over materials and manufacturing processes provide assurance of failure-free performance under the most severe conditions. Processing facilities have been geared to follow the procedural requirements of Military Standard 750 and are capable of withstanding environmental extremes in excess of MIL-S-19500. Assurance of production uniformity and reliability is provided by a test technique called "Operational Load Line Testing," which has proven product reliability with over 1 Billion Superectifiers now in use.

Glass Passivated Junction Plastic Rectifiers 0.25 to 1.50 AMPERES

Types: 1N3611GP thru 1N3614GP
 1N4001GP thru 1N4007GP
 1N4245GP thru 1N4249GP
 1N5059GP thru 1N5062GP
 1N5391GP thru 1N5399GP
 GP02-20 thru GP02-40
 GP10A thru GP10M
 GP15A thru GP15M

Features:

- High Temperature Metallurgically Bonded
- Plastic Package has Underwriters Laboratory Classification 94V-0
- Glass Passivated Junction overmolded in epoxy packages for easy handling
- I_O rated current operation at 55°C Ambient Temperature with no Thermal Runaway.
- Exceeds Environmental Standards of MIL-STD-19500
- High Temperature Soldering Guaranteed 350°C/10 Second/.375" 9.5mm Lead Length at 5 lbs. 2.25 kg Tension
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

Glass Passivated Junction Plastic Rectifiers 2.0 to 3.0 AMPERES

Types: 1N5624GP thru 1N5627GP
 GP20A thru GP20M
 GP25A thru GP25M
 GP30A thru GP30M

Features:

- High Temperature Metallurgically Bonded
- Plastic Package has Underwriters Laboratory Classification 94V-0
- Glass Passivated Junction overmolded in epoxy packages for easy handling
- I_O rated current operation at 55°C Ambient Temperature with no Thermal Runaway
- Typical I_R less than 0.1 μ A
- Exceeds Environmental Standards of MIL-STD-19500
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208
- High Temperature Soldering Guaranteed 350°C/10 Second/.375" 9.5mm Lead Length at 5 lbs. 2.25 kg Tension

Glass Passivated Junction Plastic Fast Recovery Rectifiers 0.15 to 3.0 AMPERES

Types: 1N4942GP thru 1N4948GP
 RGP01-10 thru RGP01-20
 RGP15-10 thru RGP15-20
 RGP10A thru RGP10M
 RGP15A thru RGP15M
 RGP25A thru RGP25M
 RGP30A thru RGP30M

Features:

- High Temperature Metallurgically Bonded
- Fast switching for High Rectification Efficiency to 100kHz
- Plastic Package has Underwriters Laboratory Classification 94V-0
- Exceeds Environmental Standards of MIL-STD-19500
- Includes all Advantages of the SUPERECTIFIER Design
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208
- High Temperature Soldering Guaranteed: 350°C/10 Second/.375" 9.5mm Lead Length at 5 lbs. 2.25 kg Tension

TYPE	RGP01* -10 thru -20	GP02 -20 thru -40	RGP15* -10 thru -20		GP10A thru GP10M	1N3611GP thru 1N3614GP	1N4001GP thru 1N4007GP	1N4245GP thru 1N4249GP	1N4933GP* thru 1N4937GP*	1N4942GP* thru 1N4948GP*	RGP10A* thru RGP10M*	1N5614GP thru 1N5622GP	1N5615GP* thru 1N5623GP
CASE	DO41	DO41	DO15		DO41	DO41	DO41	DO41	DO41	DO41	DO41	DO15	DO15
I _o (A)	0.1	0.25	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
@ T _A (°C)	55	55	55		55	100	75	55	75	55	55	55	55
V _R = 1000 (V)	RGP01 -10		RGP15 -10	V _R = 50 (V)	GP10A		1N4001GP		1N4933GP		RGP10A		
V _R = 1200 (V)	RGP01 -12		RGP15 -12	V _R = 100 (V)	GP10B		1N4002GP		1N4934GP		RGP10B		
V _R = 1400 (V)	RGP01 -14		RGP15 -14	V _R = 200 (V)	GP10D	1N3611GP	1N4003GP	1N4245GP	1N4935GP	1N4942GP	RGP10D	1N5614GP	1N5615GP
V _R = 1600 (V)	RGP01 -16		RGP15 -16	V _R = 300 (V)						1N4943GP			
V _R = 1800 (V)	RGP01 -18		RGP15 -18	V _R = 400 (V)	GP10G	1N3612GP	1N4004GP	1N4246GP	1N4936GP	1N4944GP	RGP10G	1N5616GP	1N5617GP
V _R = 2000 (V)	RGP01 -20	GP02 -20	RGP15 -20	V _R = 500 (V)						1N4945GP			
V _R = 2500 (V)		GP02 -25		V _R = 600 (V)	GP10J	1N3613GP	1N4005GP	1N4247GP	1N4937GP	1N4946GP	RGP10J	1N5618GP	1N5619GP
V _R = 3000 (V)		GP02 -30		V _R = 800 (V)	GP10K	1N3614GP	1N4006GP	1N4248GP		1N4947GP	RGP10K	1N5620GP	1N5621GP
V _R = 3500 (V)		GP02 -35		V _R = 1000 (V)	GP10M	1N3957GP	1N4007GP	1N4249GP		1N4948GP	RGP10M	1N5622GP	1N5623GP
V _R = 4000 (V)		GP02 -40											
SURGE (A)	20	15	15		30	30	30	25	30	30	30	50	50
V _F (V)	1.5	3.0	1.8		1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2
Page	186	152	198		160	154	156	158	188	190	192	166	194

*Fast Recovery

TYPE	1N4383GP thru 1N4586GP	1N5059GP thru 1N5062GP	AGP15-200 thru AGP15-800	GP15A thru GP15M	1N5391GP thru 1N5399GP	RGP15A* thru RGP15M*	GP20A thru GP20M	RGP20A* thru RGP20M*	1N5185GP thru 1N5190GP	RGP25A* thru RGP25M*	1N5624GP thru 1N5627GP	GP30A thru GP30M	RGP30A* thru RGP30M*
CASE	DO15	DO15	DO15	DO15	DO15	DO15	GP20	GP20	DO201AD	DO201AD	DO201AD	DO201AD	DO201AD
I _o (A)	1.0	1.0	1.5	1.5	1.5	1.5	2.0	2.0	3.0	2.5	3.0	3.0	3.0
@ T _A (°C)	5	55	55	55	70	55	55	55	25	55	70	55	55
V _R = 50 (V)				GP15A	1N5391GP	RGP15A	GP20A	RGP20A	1N5185GP	RGP25A		GP30A	RGP30A
V _R = 100 (V)				GP15B	1N5392GP	RGP15B	GP20B	RGP20B	1N5186GP	RGP25B		GP30B	RGP30B
V _R = 200 (V)	1N4383GP	1N5059GP	AGP15-200	GP15D	1N5393GP	RGP15D	GP20D	RGP20D	1N5187GP	RGP25D	1N5624GP	GP30D	RGP30D
V _R = 300 (V)					1N5394GP								
V _R = 400 (V)	1N4384GP	1N5060GP	AGP15-400	GP15G	1N5395GP	RGP15G	GP20G	RGP20G	1N5190GP	RGP25G	1N5625GP	GP30G	RGP30G
V _R = 500 (V)					1N5396GP				1N5188GP				
V _R = 600 (V)	1N4385GP	1N5061GP	AGP15-600	GP15J	1N5397GP	RGP15J	GP20J	RGP20J	1N5189GP	RGP25J	1N5626GP	GP30J	RGP30J
V _R = 800 (V)	1N4585GP	1N5062GP	AGP15-800	GP15K	1N5398GP	RGP15K	GP20K	RGP20K		RGP25K	1N5627GP	GP30K	RGP30K
V _R = 1000 (V)	1N4586GP			GP15M	1N5399GP	RGP15M	GP20M	RGP20M		RGP25M		GP30M	RGP30M
V _R > 1000 (V)													
SURGE (A)	50	50	50	50	50	50	65	65	80	100	125	125	125
V _F (V)	1.2	1.2	1.2	1.1	1.4	1.3	1.1	1.3	1.1	1.3	1.0	1.1	1.3
Page	162	164	172	170	168	200	174	202	206	204	176	178	208

*Fast Recovery

GP02 SERIES

MINIATURE GLASS PASSIVATED JUNCTION RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO41 package
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.012 ounces, 0.3 gram

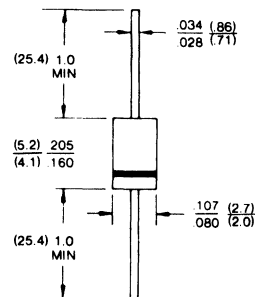
VOLTAGE RANGE

2000 to 4000 Volts

CURRENT

250mA

DO-41



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	UNITS
Maximum Recurrent Peak Reverse Voltage	2000	2500	3000	3500	4000	V
Maximum RMS Voltage	1400	1750	2100	2450	2800	V
Maximum DC Blocking Voltage	2000	2500	3000	3500	4000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at T _A = 55°C	0.25					A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	15					A
Maximum Instantaneous Forward Voltage at 1.0A	3.0					V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C T _A = 100°C	5.0 100					μA μA
Typical Junction Capacitance (Note 1)	3.0					pF
Typical Reverse Recovery Time (Note 2)	2.0					μs
Storage and Operating Temperature Range T _J , T _{STG}	-65 to +175					°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts.
2. Reverse Recovery Test Conditions: IF = .5A, IR = 1.0A, I_{rr} = .25A.

RATING AND CHARACTERISTIC CURVES
GP02 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

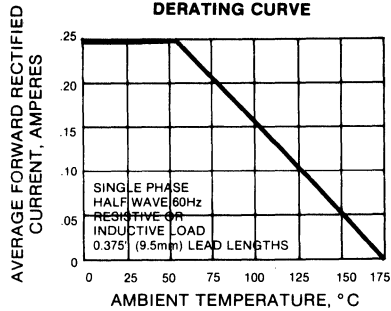


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

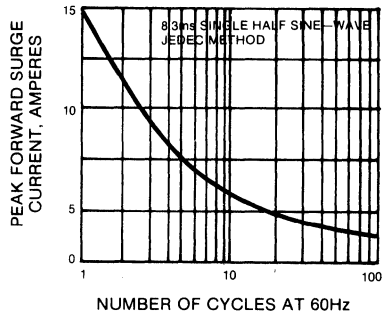


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

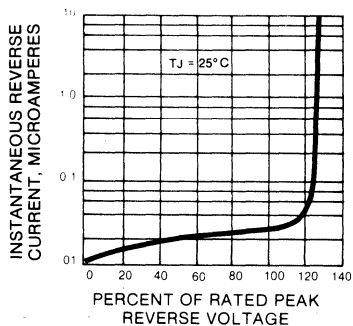


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

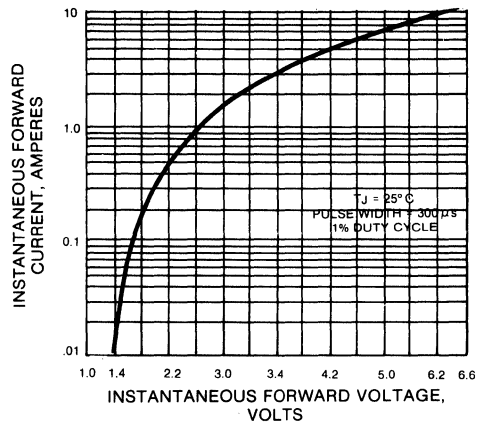


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

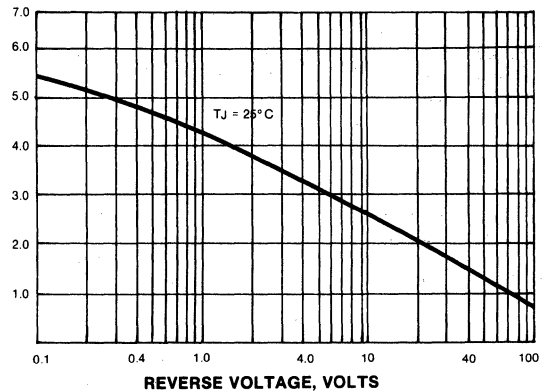
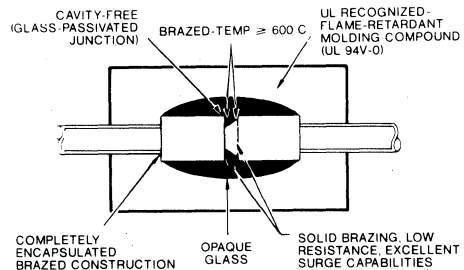


FIG. 6 — SUPERECTIFIER



1N3611GP THRU 1N3614GP & 1N3957GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Glass passivated junction in a DO-41 package.
- 1 ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway.
- Typical I_R less than $0.1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

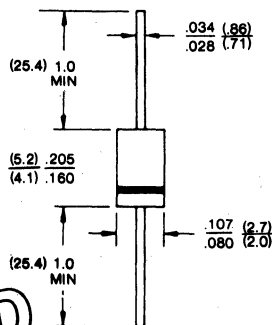
MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Colorband denotes cathode
Mounting Position: Any
Weight: 0.012 ounce, 0.3 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,966,802 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE RANGE
200 to 1000 Volts
CURRENT
1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N3611GP	1N3612GP	1N3613GP	1N3614GP	1N3957GP	Units
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_A = 75^\circ\text{C}$	1.0					A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30					A
Maximum Instantaneous Forward Voltage at 1.0A	1.0					V
Maximum DC Reverse Current at Rated DC Blocking Voltage	1.0					μA
* Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 150^\circ\text{C}$	300.0					μA
Typical Reverse Recovery Time (Note 1)	2.0					μs
Typical Junction Capacitance (Note 2)	10					pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175					$^\circ\text{C}$

NOTES:

1-Reverse Recovery Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$.

2-Measured at 1.0MHz and applied reverse voltage of 4.0VDC.

* JEDEC Registered Value

RATING AND CHARACTERISTIC CURVES
1N3611GP THRU 1N3614GP & 1N3957GP

FIG. 1 — FORWARD CURRENT DERATING CURVE

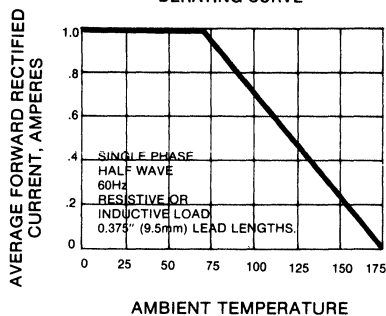


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

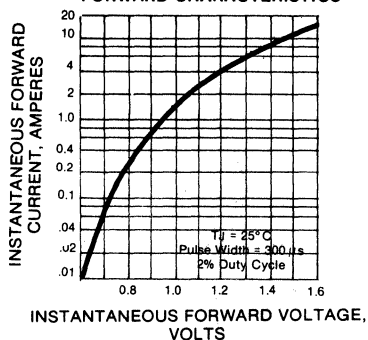


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

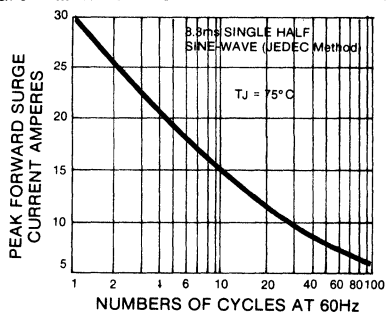


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

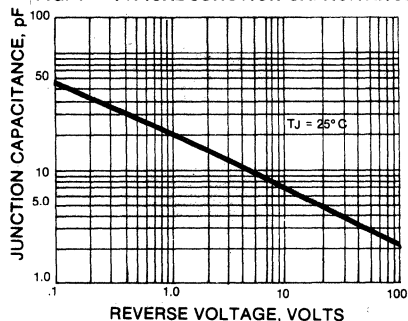


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

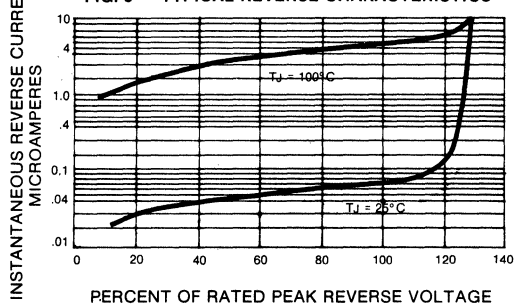
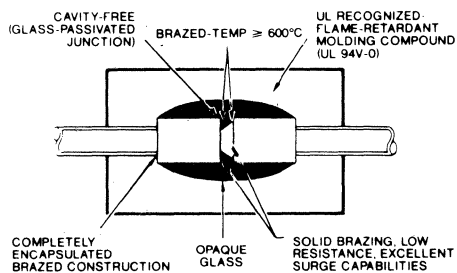


FIG. 6 — GI SUPERRECTIFIER



1N4001GP THRU 1N4007GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing General Instrument Proprietary 4B Flame Retardant Epoxy Molding Compound.
- Glass passivated junction version of 1N4001 thru 1N4007 in DO-41 package.
- 1 ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway.
- Typical I_R less than $1\mu\text{A}$.
- Exceeds environmental standards of MIL-STD-19500

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable

per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting position: Any

Weight: 0.015 ounces, .4 gram

Lead temperature for soldering: 350°C , .375 from case for 10 seconds at 5 lbs tension

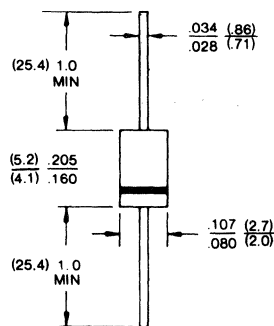
VOLTAGE RANGE

50 to 1000 PRV

CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single-phase, half-wave, 60 Hz, resistive or inductive load.

	1N 4001GP	1N 4002GP	1N 4003GP	1N 4004GP	1N 4005GP	1N 4006GP	1N 4007GP	Units
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
* Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Forward Voltage at 1.0A	1.1			1.2				V
* Maximum Average Forward Rectified Current .375 Lead Length at $T_A = 75^\circ\text{C}$				1.0				A
* Peak Forward Surge Current, I_{FM} (surge): 8.3 ms single half-sine-wave superimposed on rated load (JEDEC method)				30				A
* Maximum Full Load Reverse Current, Full Cycle Average at $T_A = 75^\circ\text{C}$.				30				μA
* Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$				5.0				μA
Rated DC Blocking Voltage $T_A = 125^\circ\text{C}$				50.0				μA
Typical Reverse Recovery Time (Note 1)				20				μs
Typical Junction Capacitance (Note 2)				15				pF
Typical Thermal Resistance θ_{JA} (Note 3)				50				$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range				- 65 to + 175				$^\circ\text{C}$

NOTES

1-Measured on Tektronix Type "S" recovery plug-in, Tektronix 545 Scope or equivalent $I_{FM} = 20\text{mA}$, $I_{RM} = 1\text{mA}$.

2-Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

3-Thermal Resistance Junction to Ambient.

*JEDEC Registered Value.

RATING AND CHARACTERISTIC CURVES
SERIES 1N4000GP THRU 1N400ZGP GLASS PASSIVATED RECTIFIER

Fig. 1—TYPICAL FORWARD CHARACTERISTICS

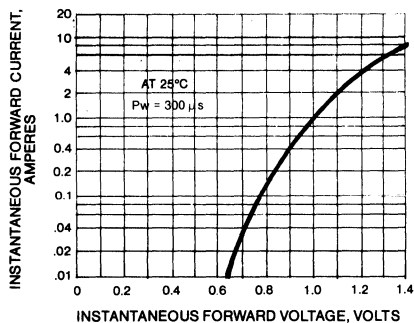


Fig. 2—JUNCTION CAPACITANCE

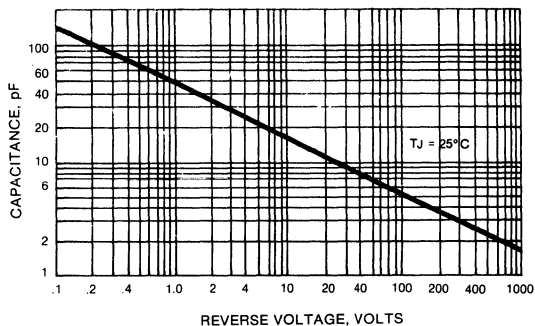


Fig. 3—PEAK FORWARD SURGE CURRENT

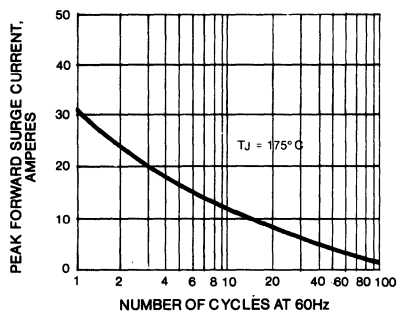


Fig. 4—PEAK FORWARD SURGE CURRENT

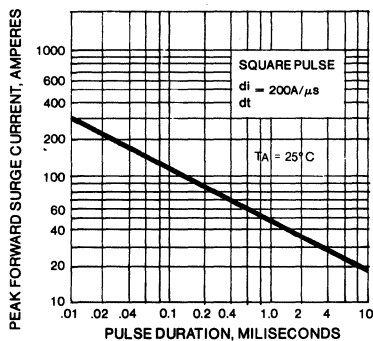
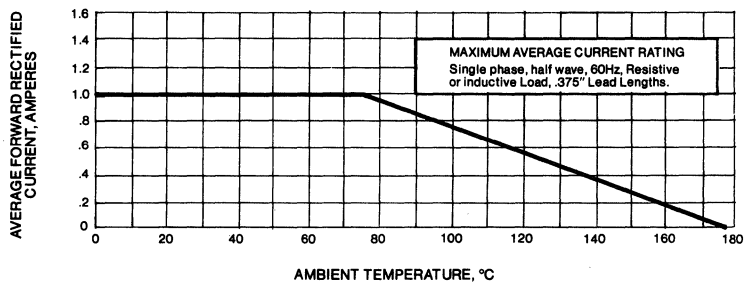


Fig. 5—FORWARD DERATING CURVE



1N4245GP thru 1N4249GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded — no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing General Instrument proprietary 4B Flame Retardant Epoxy Molding Compound.
- Glass passivated junction version of 1N4245 thru 1N4249 in DO41 package.
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway.
- Typical I_R less than $1\mu\text{A}$.
- Exceeds environmental standards of MIL-STD-19500

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable
per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting position: Any
Weight: 0.012 ounce, .3 gram

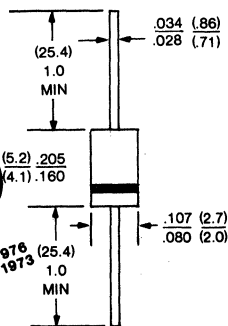
VOLTAGE RANGE

200 to 1000 PRV

CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single-phase, half sine-wave, 60 Hz, resistive or inductive load.

*JEDEC registered values

	1N4245GP	1N4246GP	1N4247GP	1N4248GP	1N4249GP	UNITS
*Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
*Maximum RMS Voltage	140	280	420	560	700	V
*Maximum DC Blocking Voltage	200	400	600	800	1000	V
*Maximum Average Forward Rectified Current at 55°C T_A (Note 1)	1.0					A
*Peak Forward Surge Current, I_{FM} (surge): 8.3 ms single half sine-wave (Note 1) superimposed on rated load (JEDEC method)	25					A
*Maximum Forward Voltage, V_F at 1.0 A DC (Note 1)	1.2					V
Maximum Full Load Reverse Current, Full Cycle Average at 55°C T_A (Note 1)	50					μA
*Maximum Reverse Current at Rated DC Blocking Voltage at T_A 25°C 125°C	1.0 25					μA μA
*Operating Temperature Range	-65 to +160					$^\circ\text{C}$
*Storage Temperature Range	-65 to +200					$^\circ\text{C}$

NOTES:

1-Maximum lead lengths .375"

RATING AND CHARACTERISTIC CURVES
1N4245GP thru 1N4249GP

Fig. 1—TYPICAL FORWARD CHARACTERISTICS

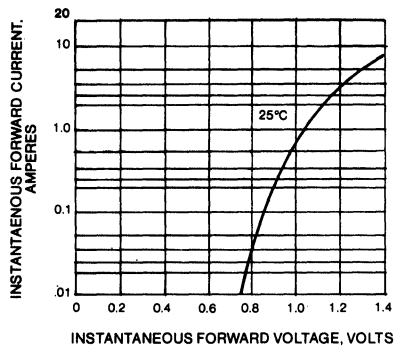


Fig. 2—FORWARD DERATING CURVE

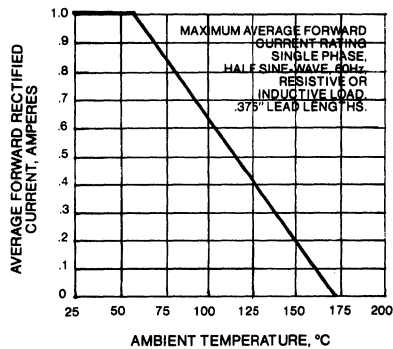


Fig. 3—MAXIMUM OVERLOAD SURGE—CURRENT

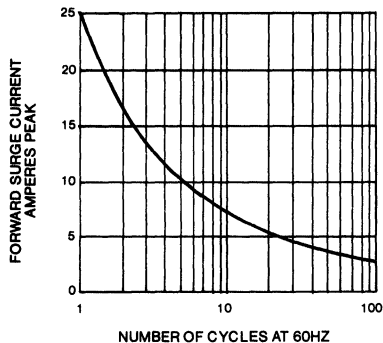


Fig. 4—JUNCTION CAPACITANCE

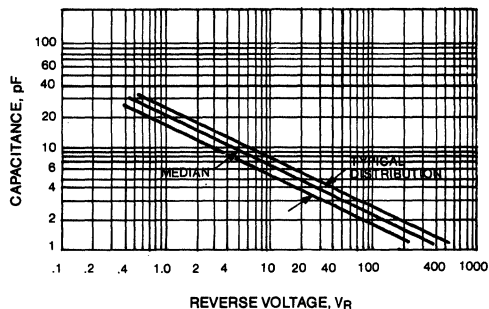
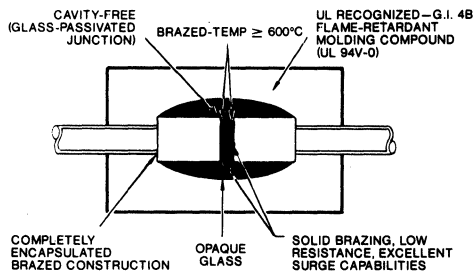


Fig. 5—SUPERECTIFIER



GP10 SERIES

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in a DO-41 package.
- 1 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway.
- Typical I_R less than $1\ \mu\text{A}$.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed:
 $350^\circ\text{C}/10\text{ seconds}/.375"$, (9.5mm) lead lengths/5 lbs., (2.3kg) tension.

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable
per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting position: Any
Weight: 0.012 ounces 0.3 gram

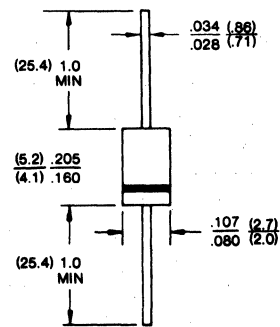
VOLTAGE RANGE

50 to 1600 Volts

CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	A	B	D	G	J	K	M	N	Q	T	V	W	Y	UNITS
Maximum Peak Reverse Voltage	50 to 1600 Volts, See Fig. 5													V
Maximum Average Forward Current .375", 9.5mm Lead Lengths at TA = 55°C	1.0													A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30						25							A
Maximum Instantaneous Voltage at 1.0A	1.1			1.2			1.3							V
Maximum Full Load Reverse Current, Full Cycle Average .375", (9.5mm) Lead Lengths at TA = 75°C	30													μA
Maximum DC Reverse Current at TA = 25°C Rated DC Blocking Voltage TA = 125°C							5.0 50.0							μA
Typical Reverse Recovery Time (Note 1)	2.0													μs
Typical Junction Capacitance (Note 2)	8.0			7.0			5.0							pF
Operating and Storage Temperature Range TJ, TSTG	-65 to +175													°C

NOTES:

1. Measured on $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$.
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts.

RATING AND CHARACTERISTIC CURVES **GP10 SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

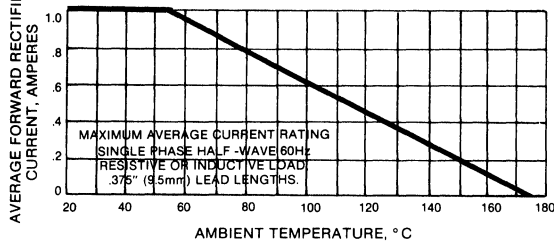


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

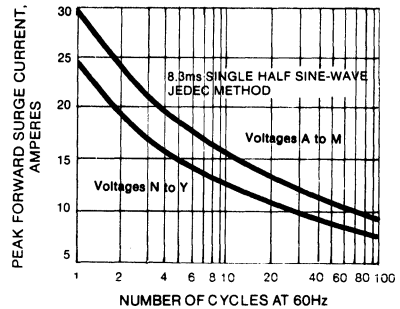


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

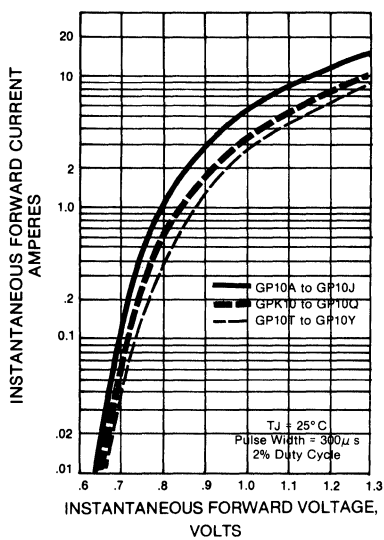


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

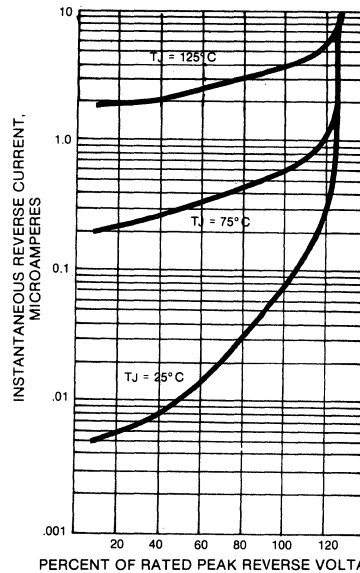
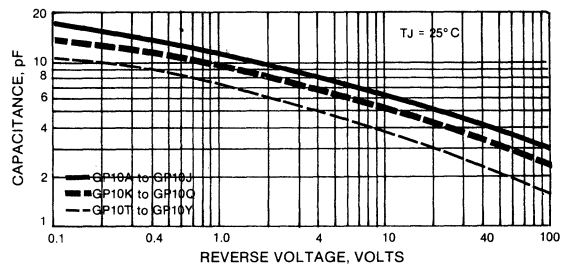


Fig. 5 — MAXIMUM RECURRENT PEAK REVERSE VOLTAGE

GP10A -	50V
GP10B -	100V
GP10D -	200V
GP10G -	400V
GP10J -	600V
GP10K -	800V
GP10M -	1000V
GP10N -	1100V
GP10Q -	1200V
GP10T -	1300V
GP10V -	1400V
GP10W -	1500V
GP10Y -	1600V

FIG. 6 — TYPICAL JUNCTION CAPACITANCE



1N4383GP thru 1N4385GP 1N4585GP and 1N4586GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded — no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 1 amperes operation at $T_A = 100^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Glass passivated junction in DO-15 package
- High temperature soldering guaranteed: 350°C , .375", (9.5mm) lead lengths/10 seconds at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO15 molded plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting position: Any
Weight: 0.015 ounce, .4 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,502 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

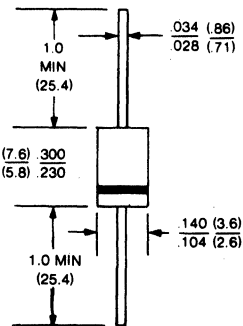
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N4383GP	1N4384GP	1N4385GP	1N4585GP	1N4586GP	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_A = 100^\circ\text{C}$	1.0					A
* Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	50					A
Maximum Instantaneous Forward Voltage at 1.0A	1.0					V
* Maximum Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$ 5.0 $T_A = 150^\circ\text{C}$ 250					μA
Typical Junction Capacitance (Note 1)	25					pF
Typical Reverse Recovery Time (Note 2)	2					μs
* Operating and Storage Temperature Range T_J , T_{STG}	-65 to +175					$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.
2. Measured with $I_F = 5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

* JEDEC Registered Value.

RATING AND CHARACTERISTIC CURVES
1N4383GP THRU 1N4385GP
1N4585GP and 1N4586GP

FIG. 1 — TYPICAL FORWARD CHARACTERISTICS

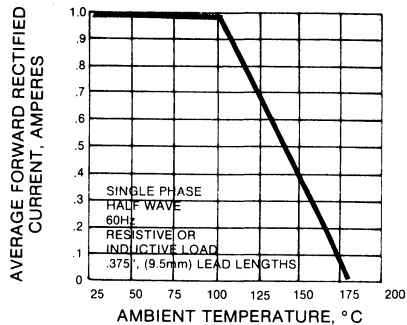


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

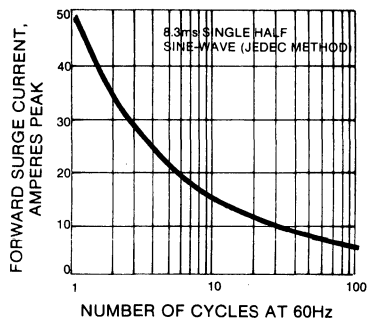


FIG. 3 — FORWARD DERATING CURVE

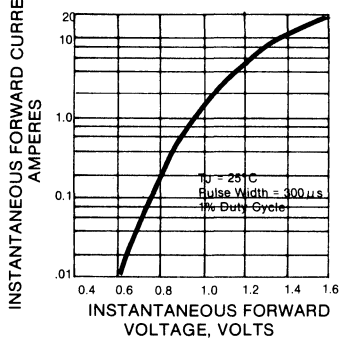


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

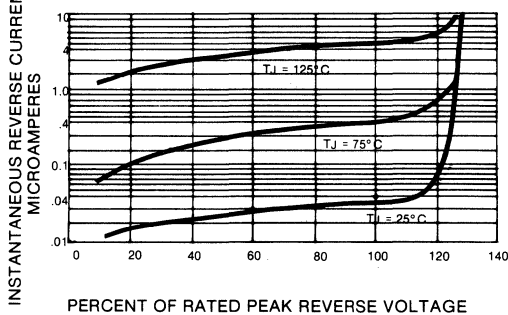


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

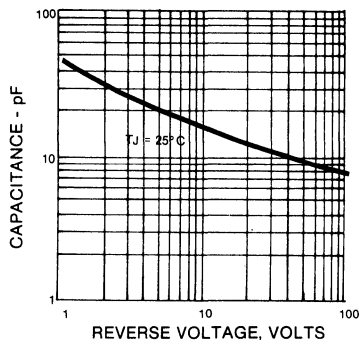
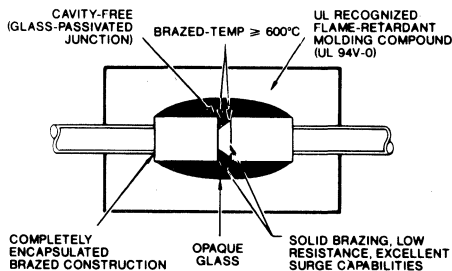


FIG. 6 — SUPERRECTIFIER



1N5059GP thru 1N5062GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing General Instrument proprietary 4B Flame Retardant Epoxy Molding Compound.
- Glass passivated junction version of 1N5059 thru 1N5062 in DO-15 package.
- 1 ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\mu\text{A}$.
- Exceeds environmental standards of MIL-STD-19500/228.

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting position: Any

Weight: 0.015 ounce, .4 gram

Lead temperature for soldering: 350°C , .375" from case for 10 seconds at 5 lbs tension

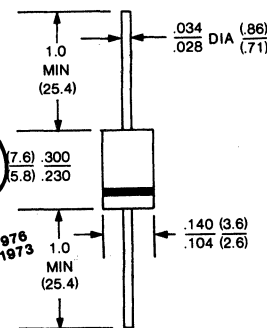
VOLTAGE RANGE

200 to 800 Volts PRV

CURRENT

1.0 Ampere

DO-15



Dimensions in inches and (millimeters)

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,995,502 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single-phase, half-wave, 60 Hz, resistive or inductive load.

*JEDEC registered values

	1N5059GP	1N5060GP	1N5061GP	1N5062GP	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Voltage	140	280	420	560	V
*Maximum DC Blocking Voltage at 150°C	200	400	600	800	V
*Maximum Average Forward Rectified Current at 75°C T_A (Note 1)	1.0				A
*Peak Forward Surge Current, I_{FM} (surge): 8.3 ms Single Half Sine-wave (note 1) Superimposed on Rated Load (JEDEC Method)	50				A
*Maximum Forward Voltage V_F at 1.0A DC, 75°C T_A	1.2				V
*Maximum Full Load Reverse Current, Full Cycle Average at (Note 1) at T_A 25°C	5.0	5.0	5.0	5.0	μA
at T_A 75°C	150	150	100	100	μA
*Maximum Reverse Current at Rated DC Blocking Voltage at T_A 25°C	5.0	5.0	5.0	5.0	μA
at T_A 175°C	300	300	200	200	μA
*Operating and Storage Temperature	-65 to +175				$^\circ\text{C}$

NOTES:

1-Maximum lead lengths .375"

RATING AND CHARACTERISTIC CURVES
1N5059GP thru 1N5062GP

Fig. 1—TYPICAL FORWARD CHARACTERISTICS

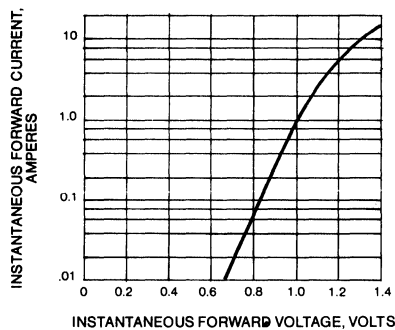


Fig. 2—FORWARD DERATING CURVE

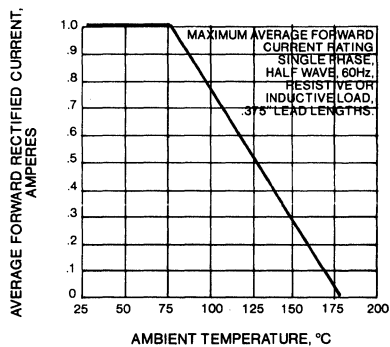


Fig. 3—MAXIMUM OVERLOAD SURGE CURRENT

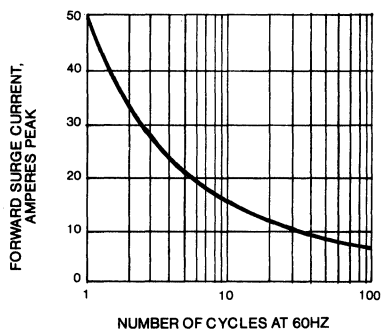


Fig. 4—JUNCTION CAPACITANCE

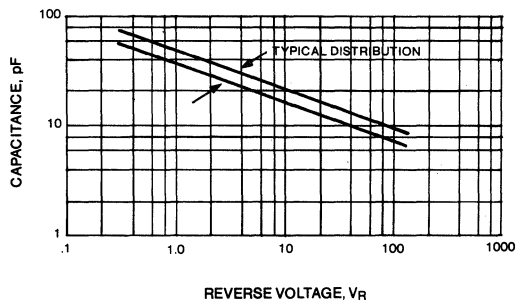
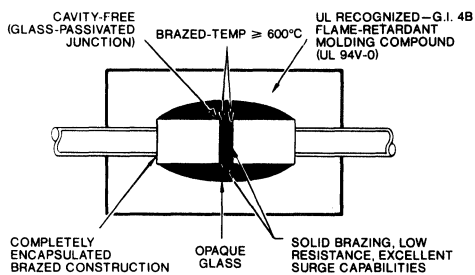


Fig. 5—SUPERECTIFIER



1N5614GP THRU 1N5622GP

MINIATURE GLASS PASSIVATED JUNCTION MEDIUM-SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded — no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- 1.0 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Medium switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.015 ounce, 0.4 gram

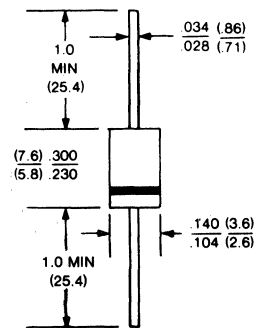
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-15



All dimensions in inches and (millimeters)

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,096,402 of 1976; bracket-lead assembly by Patent No. 3,630,306 of 1973 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	1N5614GP	1N5616GP	1N5618GP	1N5620GP	1N5622GP	UNITS
*Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
*Maximum DC Blocking Voltage	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0					A
*Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0					A
Maximum Instantaneous Forward Voltage at 1.0A	1.2					V
*Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ 0.5 25.0					μA μA
*Maximum Reverse Recovery Time (Note 1)	2.0					μs
Typical Junction Capacitance (Note 2)	45	35	25	20	15	pF
*Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175					$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

*JEDEC Registered Value.

**RATING AND CHARACTERISTIC CURVES
1N5614GP THRU 1N5622GP SERIES**

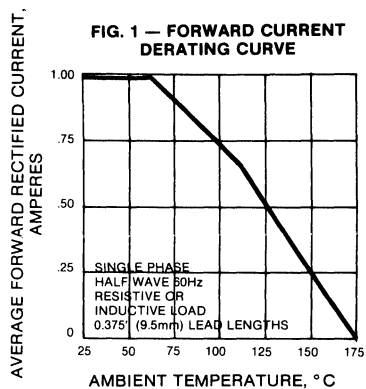


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

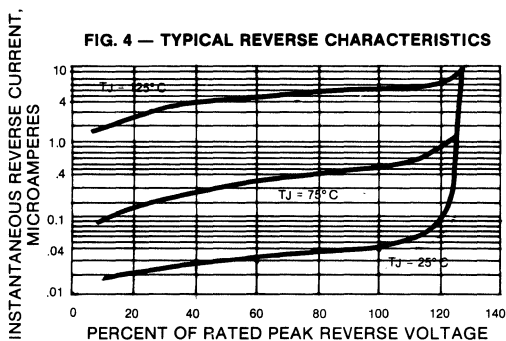
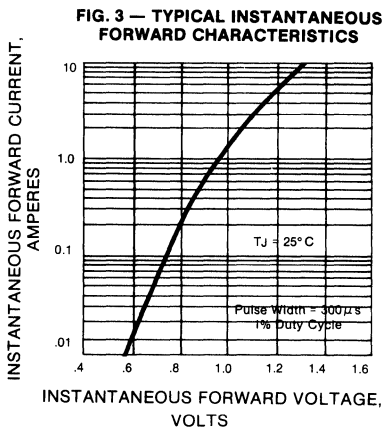
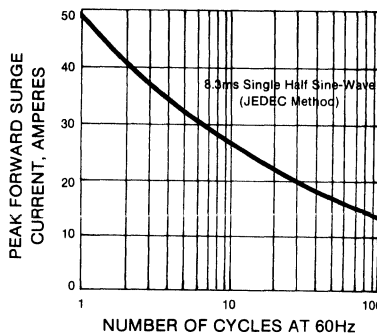


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

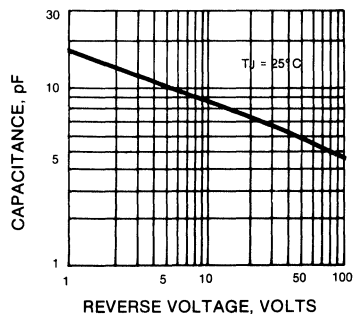
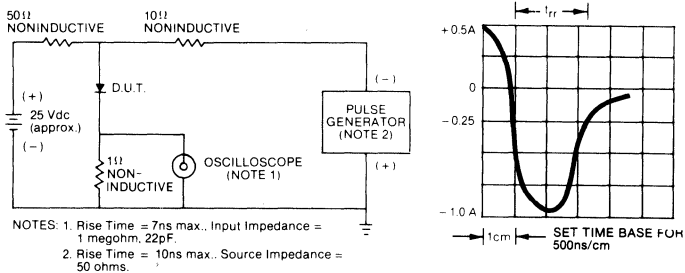


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM



1N5391GP THRU 1N5399GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

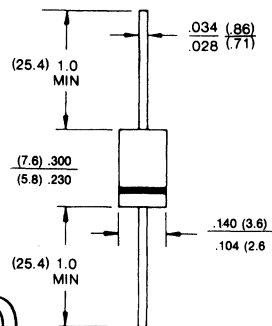
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 1.5 Ampere operation at $T_A = 70^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $350^\circ\text{C}/10\text{ seconds}/.375"$, (9.5mm) lead lengths at 5 lbs., (2.3 kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting position: Any
Weight: 0.015 ounces, .4 gram

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
1.5 Amperes

DO-15



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N5391GP	1N5392GP	1N5393GP	1N5394GP	1N5395GP	1N5396GP	1N5397GP	1N5398GP	1N5399GP	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	500	600	800	1000	V
Maximum RMS Voltage	35	70	140	210	280	350	420	560	700	V
* Maximum DC Blocking Voltage	50	100	200	300	400	500	600	800	1000	V
* Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_A = 70^\circ\text{C}$	1.5									A
* Peak Forward Surge Current 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	50									A
* Maximum Forward Voltage at 1.5A, $T_A = 70^\circ\text{C}$	1.4									V
* Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	5.0 300									μA
* Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length at $T_A = 70^\circ\text{C}$	300									μA
Typical Junction Capacitance (Note 1)	25									pF
Typical Reverse Recovery Time (Note 2)	2									μs
* Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175									$^\circ\text{C}$

NOTES

- 1-Measured at 1.0MHz and applied reverse voltage of 4.0VDC.
- 2-Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

* JEDEC Registered Value.

RATING AND CHARACTERISTIC CURVES
SERIES 1N5391GP THRU 1N5399GP

FIG. 1 — FORWARD CURRENT DERATING CURVE

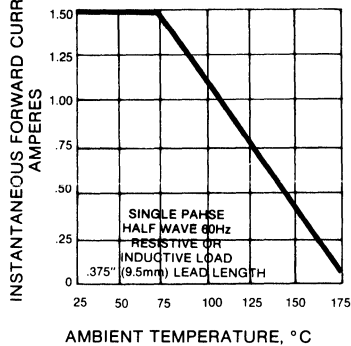


FIG. 2 — TYPICAL FORWARD CHARACTERISTICS

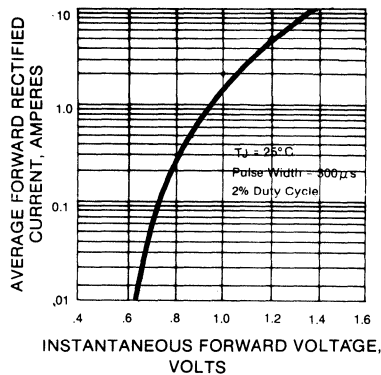


FIG. 3 — PEAK FORWARD SURGE CURRENT

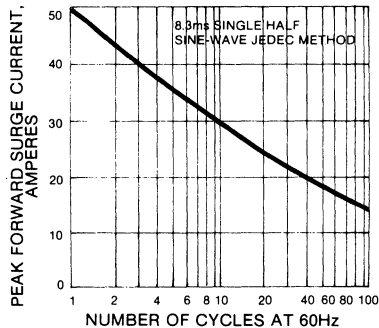


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

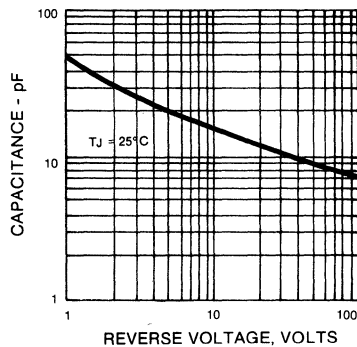


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

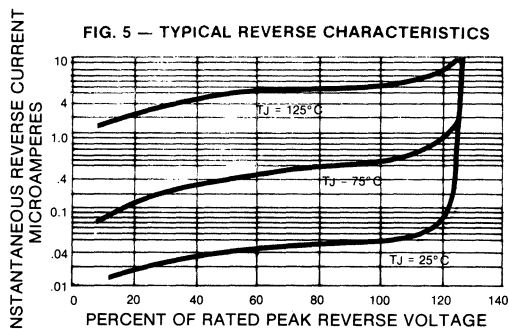
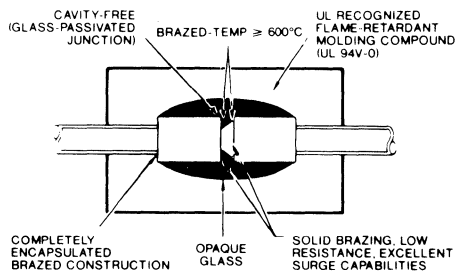


FIG. 6 - SUPERECTIFIER



GP15 SERIES

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in DO-15 package
- 1.5 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting position: Any

Weight: 0.015 ounce, 0.4 gram

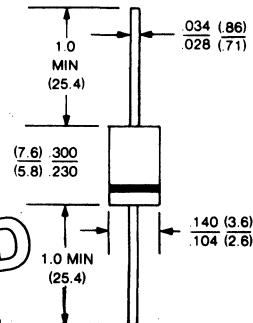
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.5 Amperes

DO-15



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,802 of 1976, brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	GP15A	GP15B	GP15D	GP15G	GP15J	GP15K	GP15M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_A = 55^\circ\text{C}$	1.5							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50							A
Maximum Instantaneous Forward Voltage at 1.5A	1.1							V
Maximum Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$	5.0							μA
Maximum Full Load Reverse Current, Full Cycle Average, .375", 9.5mm Lead Length at $T_A = 55^\circ\text{C}$	100							μA
Typical Junction Capacitance (Note 1)	25							pF
Typical Reverse Recovery Time (Note 2)	2.0							s
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

2. Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTICS CURVES
GP15 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

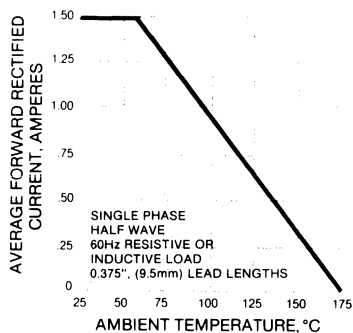


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

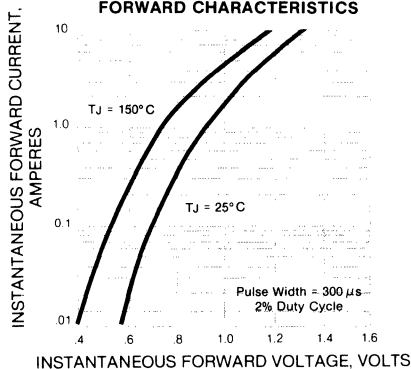


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

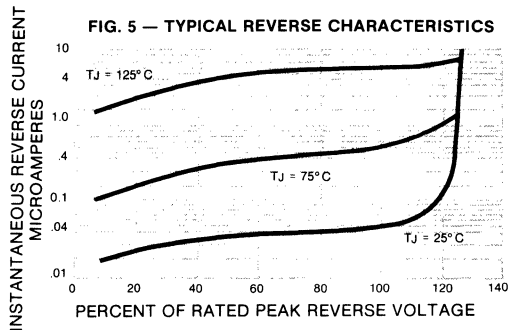


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

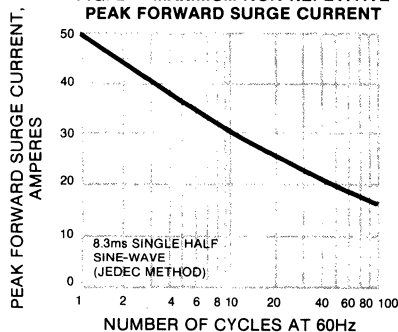


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

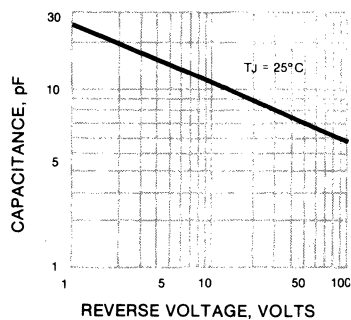
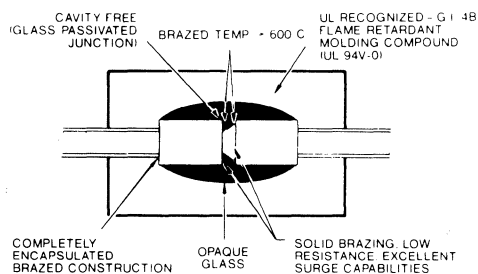


FIG. 6 — SUPERECTIFIER



AGP15 SERIES

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC CONTROLLED AVALANCHE RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Controlled Avalanche characteristic combined with the ability to dissipate reverse power
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Glass passivated junction DO-15 package.
- 1.5 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_n less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High Temperature soldering Guaranteed $350^\circ\text{C}/10\text{ sec-onds}/.375''$ (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.0154 ounce, 0.4 gram

PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,996,402 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

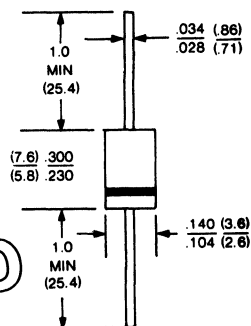
VOLTAGE RANGE

200 to 800 Volts

CURRENT

1.5 Amperes

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	AGP15 -200	AGP15 -400	AGP15 -600	AGP15 -800	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Voltage	140	280	420	560	V
Maximum DC Blocking Voltage	200	400	600	800	V
Minimum Avalanche Breakdown Voltage at $100\ \mu\text{A}$	240	450	675	880	V
Maximum Avalanche Breakdown Voltage at $100\ \mu\text{A}$	500	750	1000	1200	V
Maximum Peak Power Dissipation in the Avalanche Region $20\ \mu\text{s}$ Pulse			500		W
Maximum Average Forward Rectified Current .375", (9.5mm) lead lengths at $T_A = 55^\circ\text{C}$			1.5		A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)			50		A
Maximum Instantaneous Forward Voltage at 1.5A			1.1		V
Maximum Reverse Current at Rated DC Blocking Voltage			5.0		μA
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$			100		μA
Typical Junction Capacitance (Note 1)			25		pF
Typical Reverse Recovery Time (Note 2)			2		μs
Storage and Operating Temperature Range, T_{STG}, T_J			-65 to +175		$^\circ\text{C}$

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES
AGP15 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

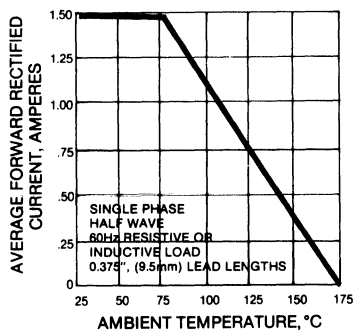


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

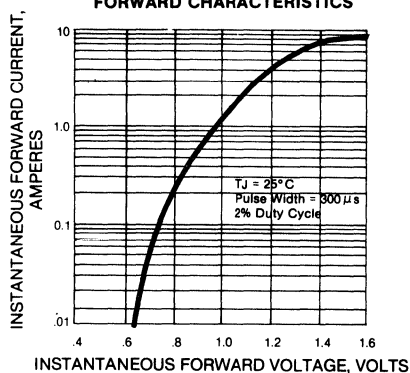


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

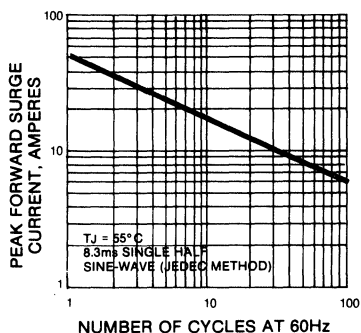


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

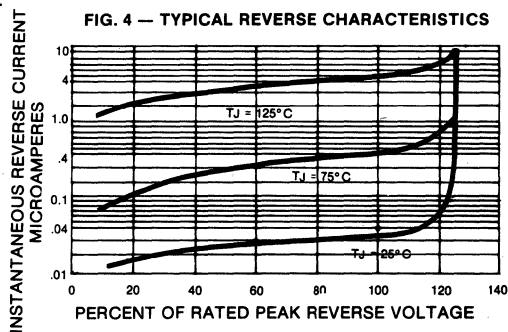


FIG. 5 — MAXIMUM NON-REPETITIVE REVERSE AVALANCHE POWER

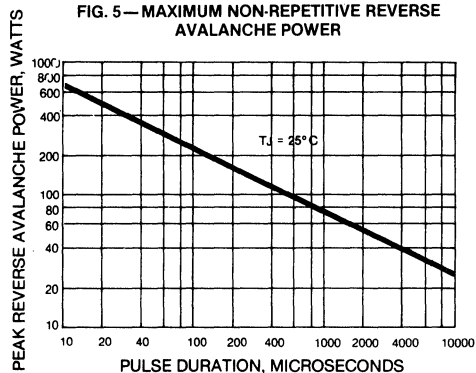
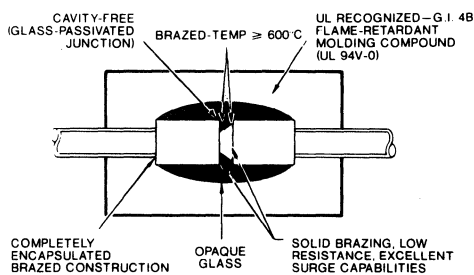


FIG. 6 — SUPERRECTIFIER



GP20 SERIES

HIGH VOLTAGE GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 2.0 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High Temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

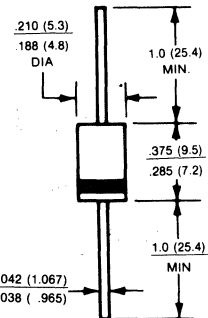
MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Band denotes cathode
Mounting Position: Any
Weight: 0.03 ounce, 0.8 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE
50 to 1000 Volts

CURRENT
2.0 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GP20A	GP20B	GP20D	GP20G	GP20J	GP20K	GP20M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at Ta = 55°C	2.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	65							A
Maximum Instantaneous Forward Voltage at 2A	1.2		1.1					V
Maximum Reverse Current at Rated DC Blocking Voltage Ta = 25°C	5.0							μA
Maximum Full Load Reverse Current, Full Cycle Average, .375" (9.5mm) Lead Length Ta = 55°C	100							μA
Typical Junction Capacitanc (Note 2)	40							pF
Typical Reverse Recovery Time (Note 1)	2.5							μs
Operating and Storage Temperature Range Tj, Tstg	-65 to +175							°C

NOTES:

1. Measured with $I_F = 5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

**RATING AND CHARACTERISTIC CURVES
GP20 SERIES**

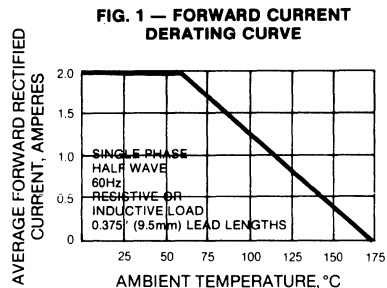


FIG. 3 — TYPICAL JUNCTION CAPACITANCE

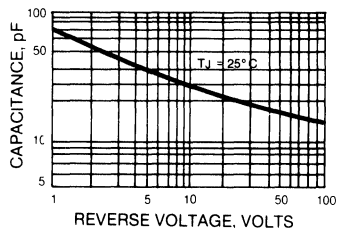


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

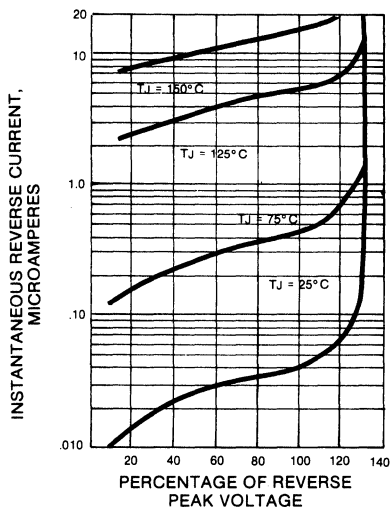


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

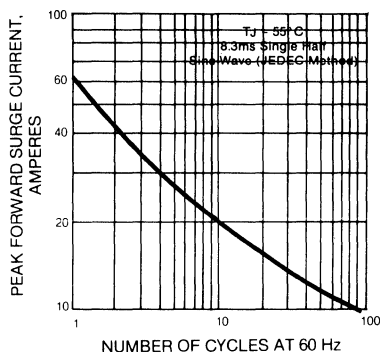


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

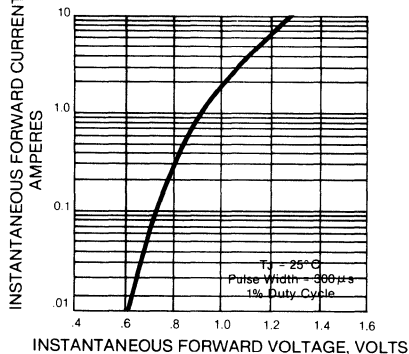
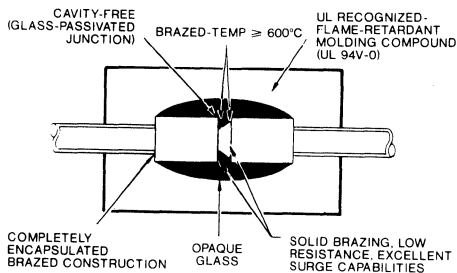


FIG. 6 — SUPERECTIFIER



1N5624GP THRU 1N5627GP

GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in DO-201AD package
- 3.0 Ampere operation $T_A = 70^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead lengths 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.04 ounce, 1.12 grams

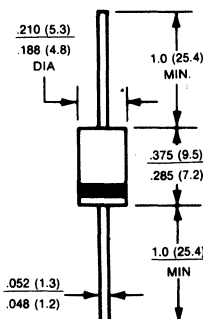
VOLTAGE RANGE

200 to 800 Volts

CURRENT

3.0 Amperes

DO-201AD



PATENTED
Braze lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	1N5624GP	1N5625GP	1N5626GP	1N5627GP	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
* Maximum DC Reverse Voltage	200	400	600	800	V
* Maximum Average Forward Rectified Current .375", (9.5mm) lead length at $T_A = 70^\circ\text{C}$	3.0				A
* Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125				A
* Maximum Instantaneous Forward Voltage at 3A $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	1.0 .95				V
Maximum Reverse Current at Rated DC Reverse Voltage $T_A = 25^\circ\text{C}$ $T_A = 150^\circ\text{C}$	5.0 300 200				μA
Maximum Full Load Reverse Current, Full Cycle Average, .375" (9.5mm) Lead Length $T_A = 70^\circ\text{C}$	200				μA
Typical Junction Capacitance (Note 1)	60				pF
Typical Reverse Recovery Time (Note 1)	3				μs
Operating and Storage Temperature Range, T_J , T_{STG}	-65 to +175				$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

2. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$

* JEDEC Registered Value

RATING AND CHARACTERISTIC CURVES
1N5624GP THRU 1N5627GP

FIG. 1 — FORWARD CURRENT DERATING CURVE

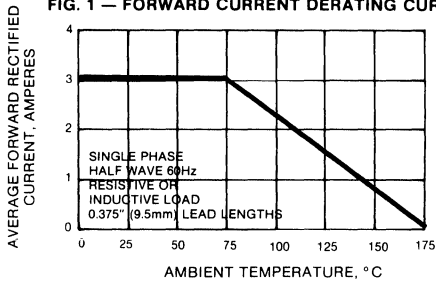


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

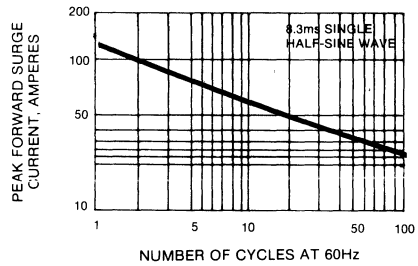


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

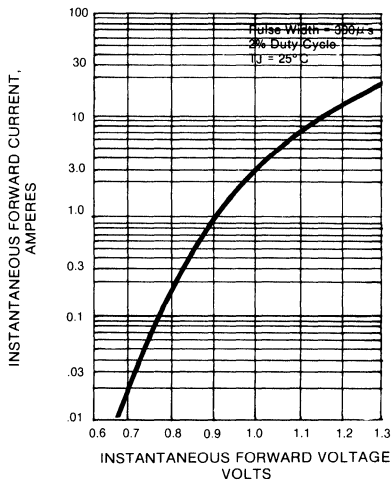


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

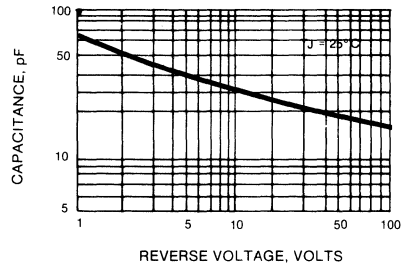


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

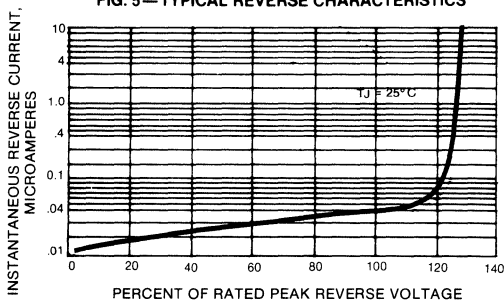
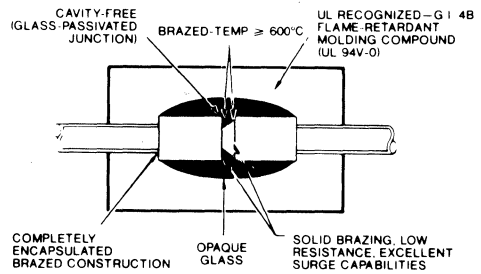


FIG. 6 — SUPERECTIFIER



GP30 SERIES

GLASS PASSIVATED SILICON JUNCTION PLASTIC RECTIFIER



GENERAL
INSTRUMENT



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in DO-201AD package
- 3 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_n less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 350C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Mounting Position: Any
Weight: 0.04 ounce, 1.12 grams

PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

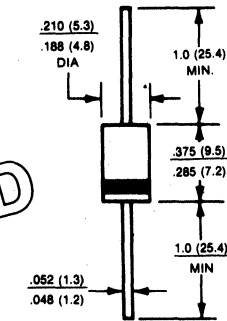
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes

DO-201AD



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GP30A	GP30B	GP30D	GP30G	GP30J	GP30K	GP30M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Current, .375" (9.5mm) Lead Length at T _A = 55° c	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125							A
Maximum Instantaneous Forward Voltage at 3.0A	1.2	1.1						V
Maximum Reverse Current at Rated DC Blocking Voltage	5.0							μA
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length T _A = 55° C	100							μA
Typical Junction Capacitance (Note 1)	20							pF
Typical Reverse Recovery Time (Note 2)	3.0							μs
Operating and Storage Temperature Range T _J , T _{stg}	-65 to +175							°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES
GP30 SERIES

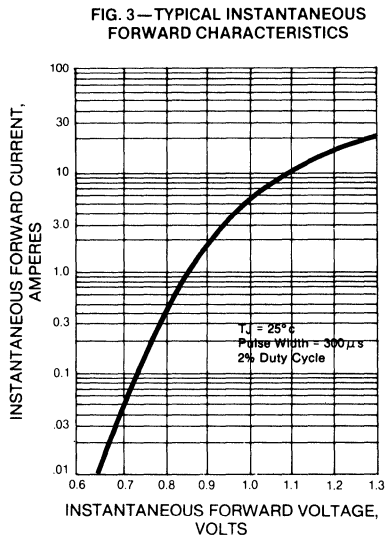
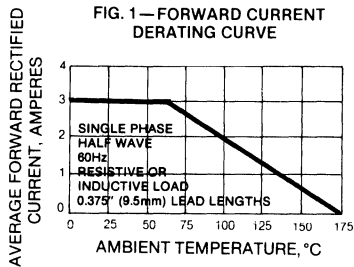


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

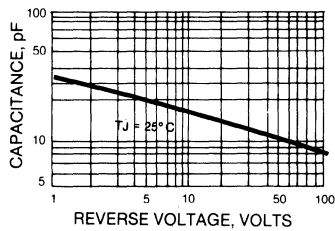


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

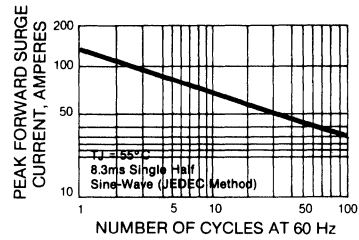


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

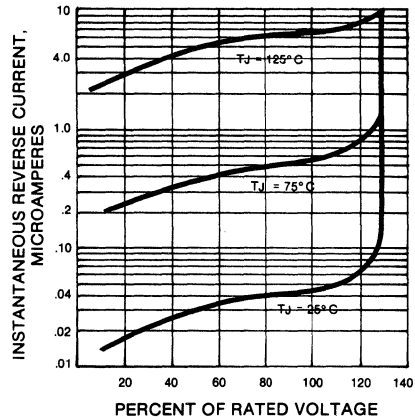
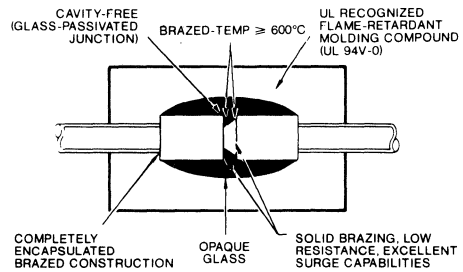


FIG. 6 — SUPERECTIFIER



**GLASS PASSIVATED
ZENER REGULATOR DIODE
1.5 WATT 100 TO 200 VOLTS**

ZGP10-100 THRU ZGP10-200

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC ZENER REGULAR DIODE

SUPERRECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low zener impedance
- Excellent clamping capability
- Glass passivated junction in DO-41 package
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

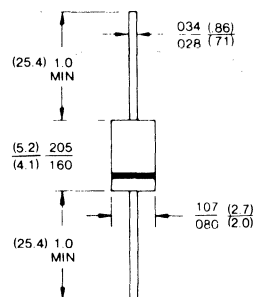
VOLTAGE RANGE

100-200 Volts

POWER RATING

1.5 Watts

DO-41



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; braided-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

OPERATING AND STORAGE TEMPERATURE T_J , T_{STG} -65°C to +175°C

Type	Zener Breakdown Voltage at 5mA		Maximum Zener Dynamic Impedance				Maximum Reverse Current at Measurement Voltage, V_R			Maximum Forward Voltage at 0.5A	Maximum Continuous Regulator Current*
	MIN - MAX		I_{ZT}	Z_{ZT}	I_{ZK}	Z_{ZK}	V_R	25°C	100°C	V_F	I_{ZM}
	Volts		mA	Ohms	mA	Ohms	Volts	μA	μA	Volts	mA
ZGP10-100	80	120	5	500	.25	5000	60	0.5	100	1.0	10
ZGP10-110	88	132	5	600	.25	5000	70	0.5	100	1.0	9.1
ZGP10-120	96	144	5	700	.25	5000	80	0.5	100	1.0	8.3
ZGP10-130	104	156	5	800	.25	5000	90	0.5	100	1.0	7.7
ZGP10-140	112	168	5	900	.25	5000	100	0.5	100	1.0	7.1
ZGP10-150	120	180	5	1000	.25	5000	110	0.5	100	1.0	6.6
ZGP10-160	140	170	5	1100	.25	5000	120	0.5	100	1.0	6.3
ZGP10-170	136	204	5	1200	.25	5000	130	0.5	100	1.0	5.9
ZGP10-180	144	216	5	1300	.25	5000	140	0.5	100	1.0	5.6
ZGP10-190	152	228	5	1400	.25	5000	150	0.5	100	1.0	5.3
ZGP10-200	160	240	5	1500	.25	5000	160	0.5	100	1.0	5.0

Standard $\pm 20\%$, Suffix A $\pm 10\%$, Suffix B $\pm 5\%$.

*Temperature rating at specified regulator current is $T_L = 30^\circ C$.

**Maximum continuous power dissipation at $T_L = 75^\circ C$ lead length .375", 9.5mm is 1.5 Watts.

RATING AND CHARACTERISTIC CURVES
ZGP10-100 THRU ZGP10-200

FIG. 1 — MAXIMUM CONTINUOUS POWER DISSIPATION

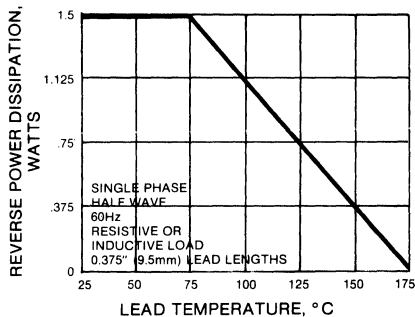


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

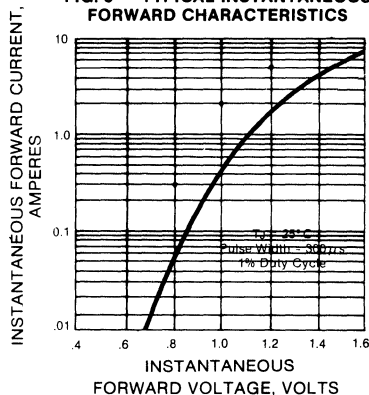


FIG. 5 — TYPICAL TEMPERATURE COEFFICIENTS

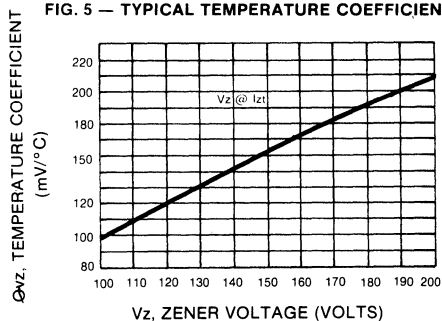


FIGURE 2 — TYPICAL ZENER IMPEDANCE

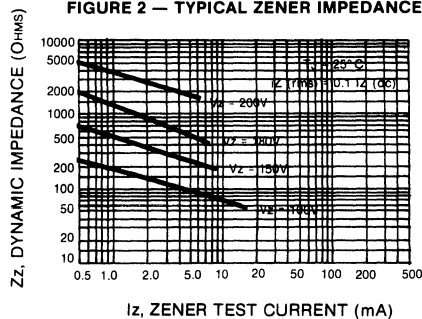


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

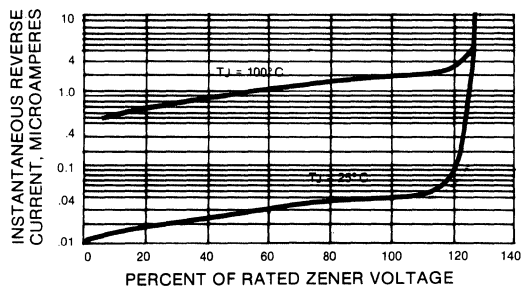
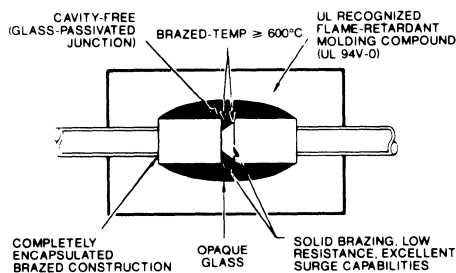


FIG. 6 — SUPERRECTIFIER



**FAST-RECOVERY
GLASS PASSIVATED
0.1 AMPERE TO 3.0 AMPERES
50 VOLTS TO 2000 VOLTS**

PHOTOFLASH RECTIFIER

RGP01 SERIES

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER



**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- For use in high frequency rectifier circuits
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Glass passivated junction in DO-41 package
- 100 millampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_n less than $1\mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $350^\circ\text{C}/10\text{ sec-onds}/.375"$ (9.5mm) lead lengths/5 lbs., (2.3kg) tension

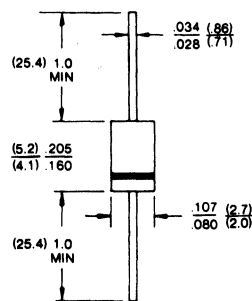
MECHANICAL DATA

Case: Molded plastic over glass
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: 0.012 ounce, .3 gram

VOLTAGE
 1000 to 2000 Volts

CURRENT
 100 Milliamperes

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	RGP01-10	RGP01-12	RGP01-14	RGP01-16	RGP01-18	RGP01-20	UNITS
Maximum Recurrent Peak Reverse Voltage	1000	1200	1400	1600	1800	2000	V
Maximum RMS Voltage	700	840	980	1120	1260	1400	V
Maximum DC Blocking Voltage	1000	1200	1400	1600	1800	2000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Lengths at $T_A = 55^\circ\text{C}$	100						mA
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	20						A
Maximum Instantaneous Forward Voltage at .10A	1.5						V
Maximum DC Reverse Current at rated DC Blocking Voltage	5.0						μA
Maximum Reverse Recovery Time (Note 1)	300						ns
Typical Junction Capacitance (Note 2)	15						pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175						$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$ recover to 0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

RATING AND CHARACTERISTIC CURVES
RGP01 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

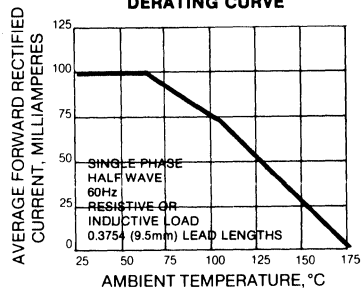


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

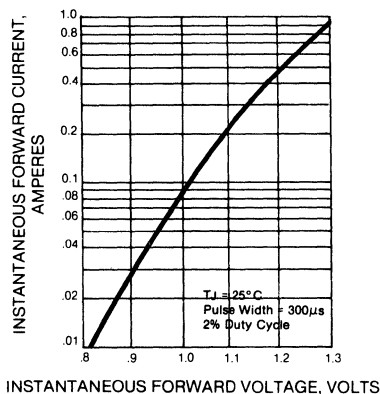


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

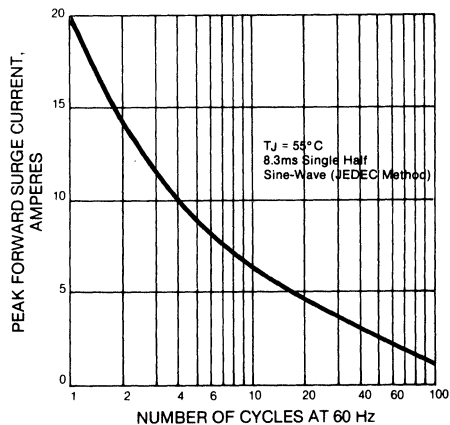


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

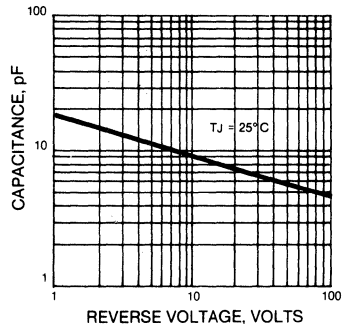


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC

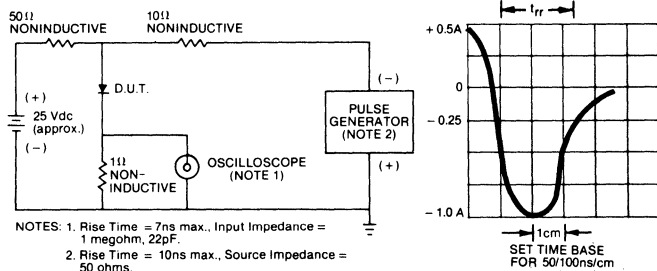
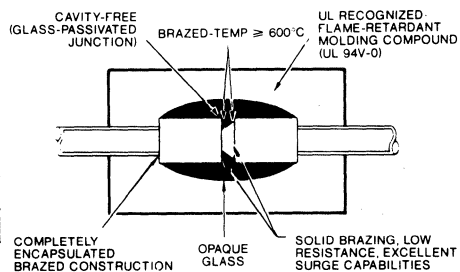


FIG. 6 — SUPERECTIFIER



1N4933GP THRU 1N4937GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Fast switching for high efficiency
- Glass passivated junction in DO-41 package
- 1 ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway
- Typical I_a less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3 kg) tension

MECHANICAL DATA

Case: JEDEC DO-41, molded case
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.012 ounce, 0.34 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,995,602 of 1976; brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

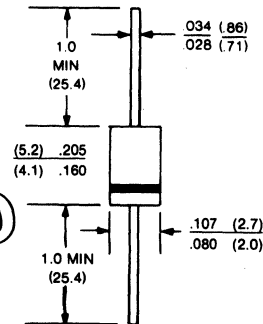
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N4933GP	1N4934GP	1N4935GP	1N4936GP	1N4937GP	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
* Maximum RMS Voltage	35	70	140	280	420	V
* Maximum DC Blocking Voltage	50	100	200	400	600	V
* Maximum Full Load Reverse Current, Full Cycle Average .375", 9.5mm lead lengths at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3 ms single half sine-wave at $T_A = 75^\circ\text{C}$ superimposed on rated load (JEDEC method)	30					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.2					V
* Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	5.0 100					μA
* Maximum Reverse Recovery Time (Note 1)	200					ns
Typical Junction Capacitance (Note 2)	15					pF
* Operating and Storage Temperature Range T_J, T_{stg}	-65 to +175					$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = 1.0\text{A}$, $V_R = 30\text{ Volts}$.
2. JEDEC Registered Values.
3. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
4. JEDEC registered values.

RATING AND CHARACTERISTIC CURVES
1N4933GP THRU 1N4937GP SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

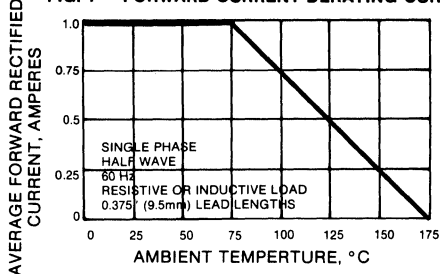


FIG. 3 — TYPICAL JUNCTION CAPACITANCE

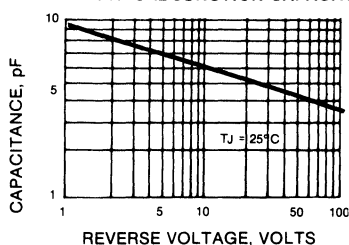


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC

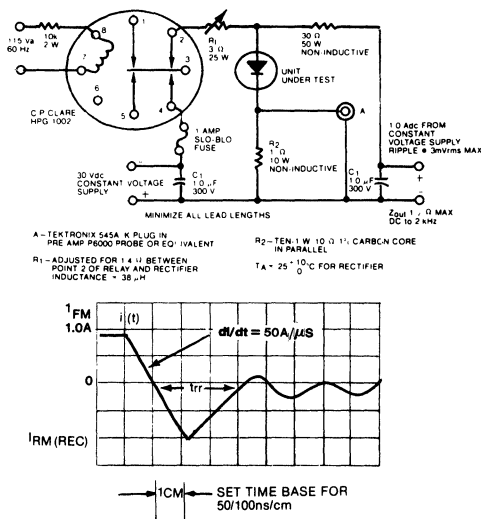


FIG. 2 — TYPICAL FORWARD CHARACTERISTICS

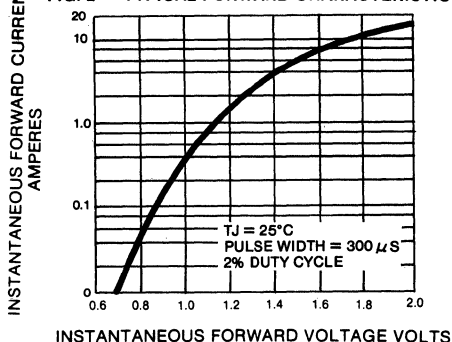
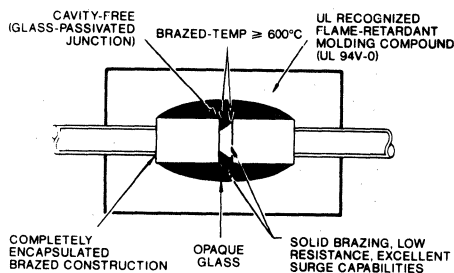
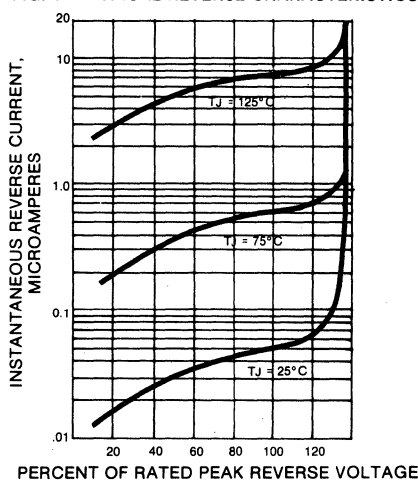


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS



1N4942GP THRU 1N4948GP

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Glass passivated junction in DO-41 package
- 1 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3 kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.012 ounce 0.3 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,985,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

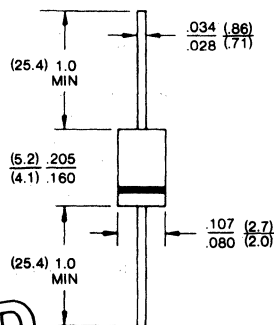
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-41



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N4942GP	1N4944GP	1N4946GP	1N4947GP	1N4948GP	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	25.0					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.3					V
* Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 150^\circ\text{C}$	1.0 200					μA μA
* Maximum Reverse Recovery Time (Note 1)	150	150	250	250	500	ns
Typical Junction Capacitance (Note 2)	15					pF
* Operating and Storage Temperature Range T_J , T_{STG}	-65 to +175					$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .05\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
- * JEDEC registered values.

RATING AND CHARACTERISTIC CURVES
1N4942GP THRU 1N4948GP

FIG. 1 — FORWARD CURRENT DERATING CURVE

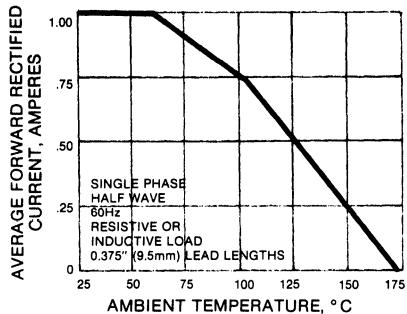


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

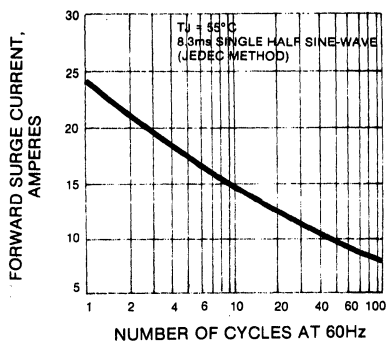


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

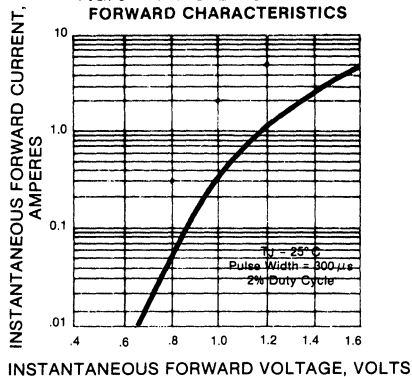


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

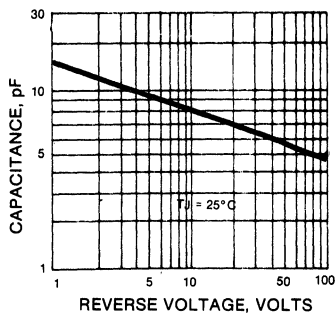


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

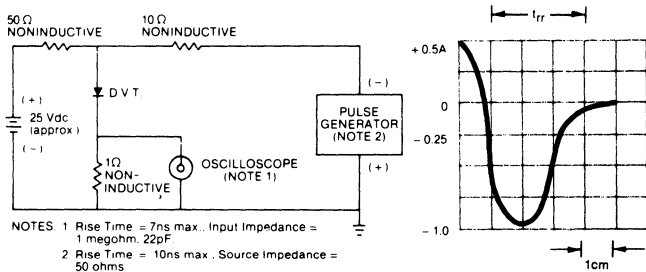
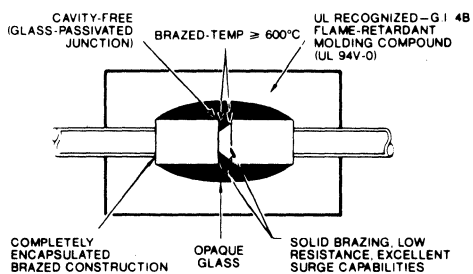


FIG. 6 — SUPERRECTIFIER



RGP10 SERIES

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Fast switching for high efficiency
- Glass passivated junction in DO-41 package
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10\ \text{sec-onds}/.375''$ (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.012 ounce, 0.3 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

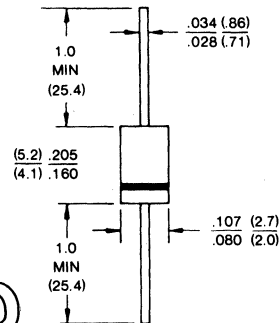
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RGP10A	RGP10B	RGP10D	RGP10G	RGP10J	RGP10K	RGP10M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	1.3							V
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length $T_A = 55^\circ\text{C}$	100							μA
Maximum DC Reverse Current, $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage	5.0							μA
Maximum Reverse Recovery Time (Note 1)	150	150	150	150	250	500	500	ns
Typical Junction Capacitance (Note 2)	15							pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.

RATING AND CHARACTERISTIC CURVES **RGP10 SERIES**

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

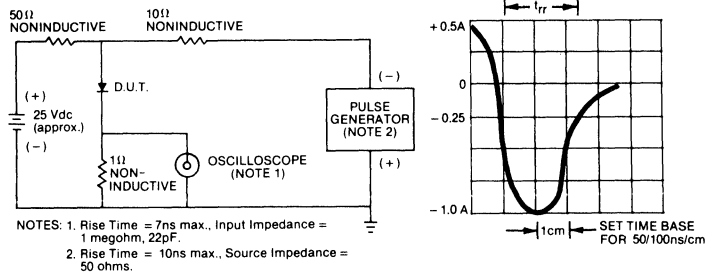


FIG. 2 — TYPICAL JUNCTION CAPACITANCE

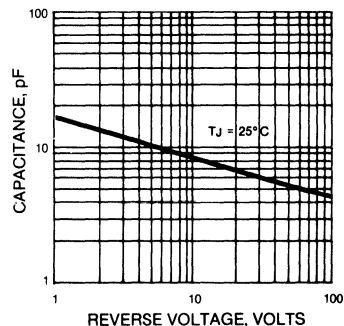


FIG. 3 — FORWARD CURRENT DERATING CURVE

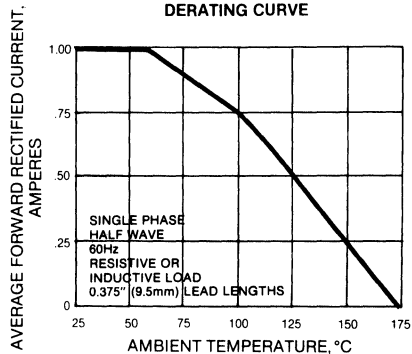


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

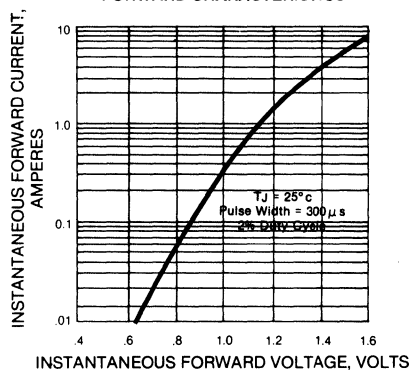


FIG. 5 — MAXIMUM NON-REPETITIVE SURGE CURRENT

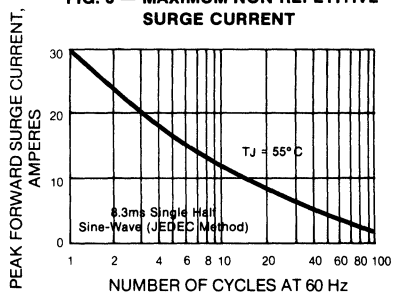
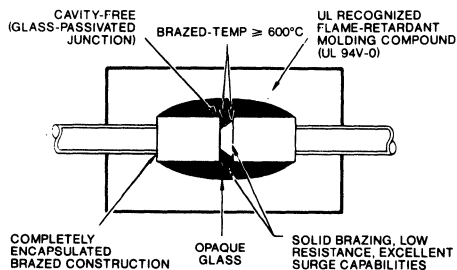


FIG. 6 — SUPERRECTIFIER



1N5615GP THRU 1N5623GP

MINIATURE GLASS PASSIVATED JUNCTION FAST-SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- 1 amperes operation at $T_A = 55^\circ\text{C}$ with no thermal runaway.
- Typical I_R less than $0.5 \mu\text{A}$.
- Exceeds environmental standards of MIL-STD-19500.
- Fast switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length at 5 lbs. (11 kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per

MIL-STD-202, Methode 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.015 ounces, .4 gram

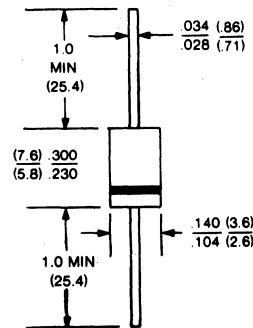
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-15



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	1N5615GP	1N5617GP	1N5619GP	1N5621GP	1N5623GP	UNITS
*Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
*Maximum DC Blocking Voltage	200	400	600	800	1000	V
*Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0					A
*Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	50.0					A
Maximum Forward Voltage at 1.0A	1.2					V
Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	0.5 25.0					μA μA
*Maximum Reverse Recovery Time (Note 1)	150	150	250	300	500	ns
Typical Junction Capacitance (Note 2)	45	35	25	20	15	pF
*Operating and Storage Temperature Range	-65 to +175					$^\circ\text{C}$

NOTES: 1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = .25\text{A}$.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

* JEDEC Registered Value

RATING AND CHARACTERISTIC CURVES
1N5615GP THRU 1N5623GP SERIES

FIG. 1—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

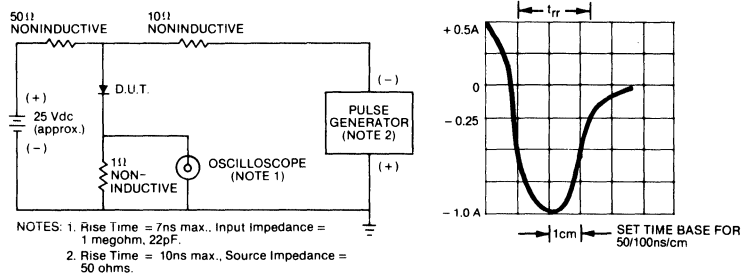


FIG. 1—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

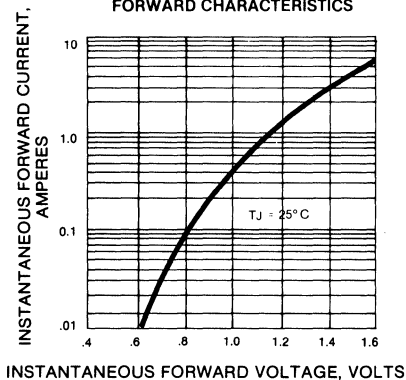


FIG. 3—FORWARD CURRENT DERATING CURVE

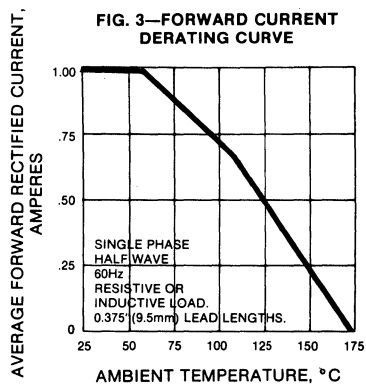


FIG. 4—TYPICAL JUNCTION CAPACITANCE

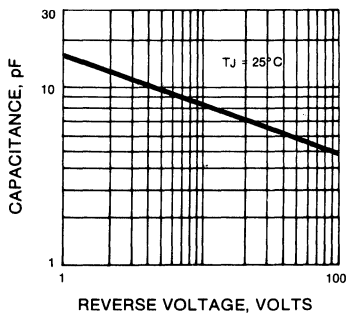
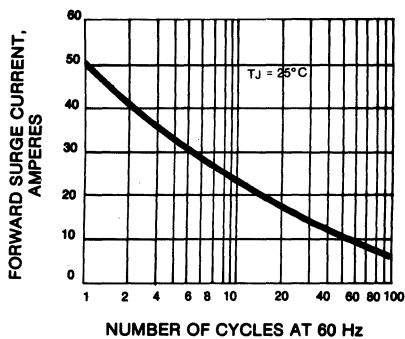


FIG. 5—PEAK FORWARD SURGE CURRENT



GI810 SERIES

MINIATURE GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Glass passivated junction in a DO-15 package
- 1.0 ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

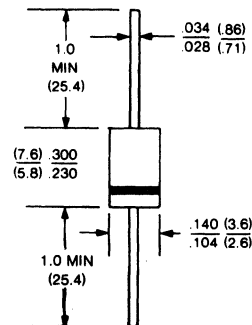
Case: Molded plastic over glass
Terminals: Axial leads, solderable per
MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.015 ounce, 0.4 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976, brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
1.0 Ampere

DO-15



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI810	GI811	GI812	GI814	GI816	GI817	GI818	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	350	560	700	V
Maximum Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 75^\circ\text{C}$	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load $T_A = 75^\circ\text{C}$	30							A
Maximum Instantaneous Forward Voltage at 1.0A	1.1							V
Maximum Reverse Current, $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	10.0 100							μA μA
Maximum Reverse Recovery Time (Note 1)	750							ns
Maximum Reverse Recovery Current I_{RM}	3.0							A
Typical Junction Capacitance (Note 2)	25							pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured with $I_F = 1.0\text{A}$, $V_R = 30\text{V}$.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.

RATING AND CHARACTERISTIC CURVES

FIG. 1—FORWARD CURRENT DERATING CURVE

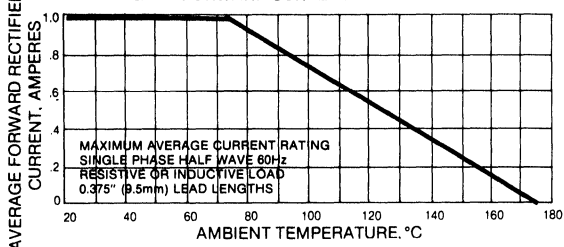
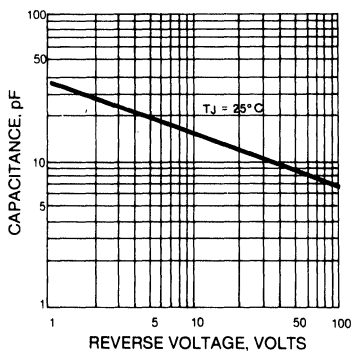


FIG. 3—TYPICAL JUNCTION CAPACITANCE



**FIG. 5—REVERSE RECOVERY TIME CHARACTERISTIC
AND TEST CIRCUIT DIAGRAM**

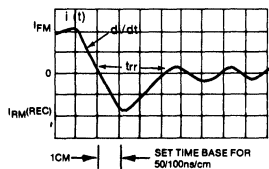
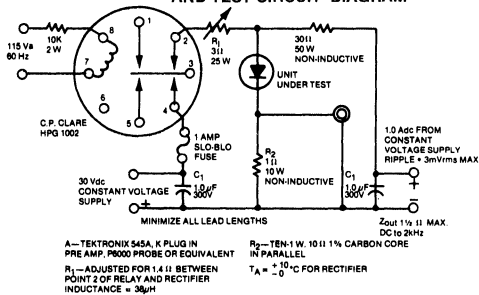


FIG. 2—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

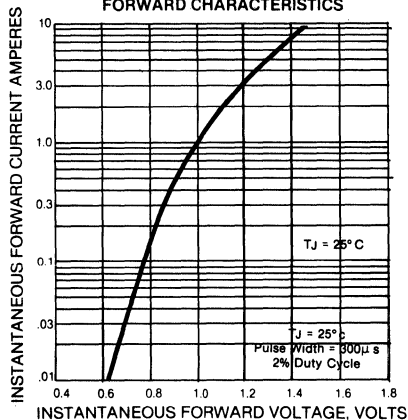


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

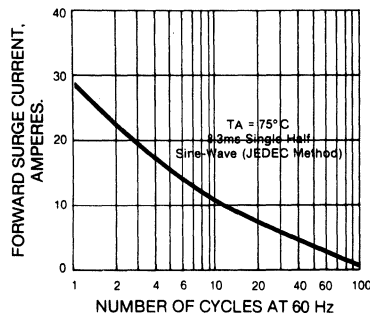
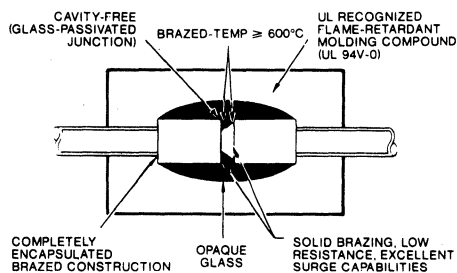


FIG. 6—GI SUPERRECTIFIER



RGP15-10 THRU RGP15-20

HIGH VOLTAGE FAST SWITCHING SNUBBER RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

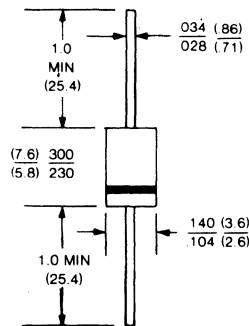
VOLTAGE RANGE

1000 to 2000 Volts

CURRENT

1.0 Ampere

DO-15



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- For use in very fast high voltage transient snubber applications
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing General Instrument Proprietary 4B Flame Retardant Epoxy Molding Compound
- Glass passivated junction in DO15 package
- Typical I_R less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- High Temperature soldering Guaranteed $350^\circ C/10$ seconds/.375" (9.5mm) lead length at 5 lbs., (2.3 kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.015 ounces 0.4 gram

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,995,602 of 1976, braided-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RGP15-10	RGP15-12	RGP15-14	RGP15-15	RGP15-16	RGP15-18	RGP15-20	UNITS
Maximum Recurrent Peak Reverse Voltage	1000	1200	1400	1500	1600	1800	2000	V
Maximum RMS Voltage	700	840	980	1050	1120	1260	1400	V
Maximum DC Blocking Voltage	1000	1200	1400	1500	1600	1800	2000	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Length See Fig. 2	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave imposed on rated load (JEDEC method)	15							A
Peak Reverse Avalanche Power 100 μ S Square Wave Duty Cycle $\leq 2\%$	500							W
Maximum Forward Voltage at 1.0A	1.8				2.1			V
Maximum DC Reverse Current $T_A = 25^\circ C$ at rated DC Blocking Voltage $T_A = 100^\circ C$					5.0 100			μA
Maximum Reverse Recovery Time (Note 2)	250							ns
Typical Junction Capacitance (Note 1)	11.0							pF
Operating and Storage Temperature Range T_J	-65 to +175							$^\circ C$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5A$, $I_R = 1.0A$, $I_{rr} = .25A$.

RATING AND CHARACTERISTIC CURVES **RGP15-10 THRU RGP15-20**

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

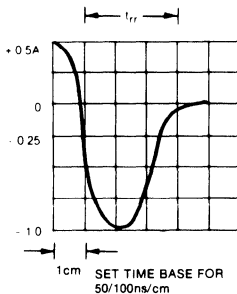
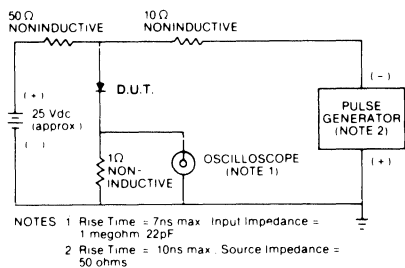


FIG. 2 — FORWARD CURRENT DERATING CURVE

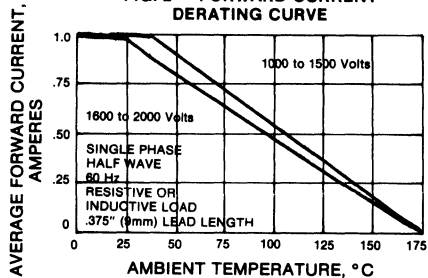


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

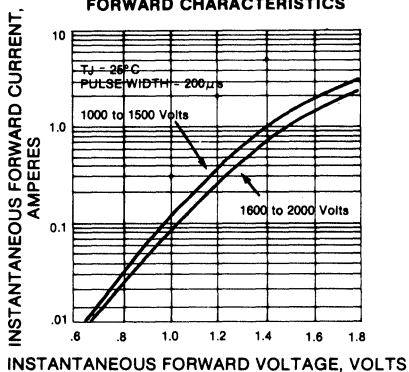


FIG. 4 — PEAK FORWARD SURGE CURRENT

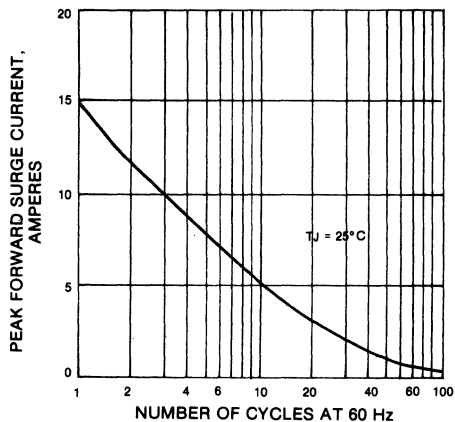


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

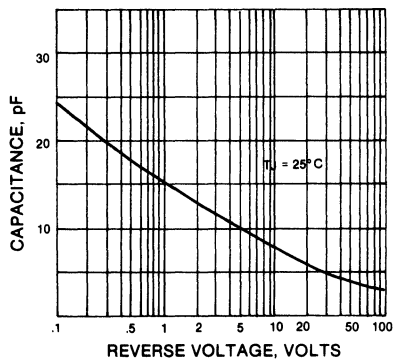
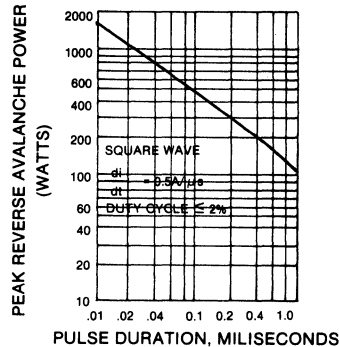


FIG. 4 — PEAK REVERSE AVALANCHE POWER



RGP15 SERIES

GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERRECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Glass passivated junction in DO-15 package
- 1.5 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_r less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10\text{ sec-onds}/.375''$ (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.015 ounce, 0.4 gram

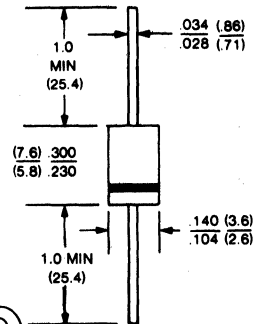
PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; Patent No. 3,930,306 of 1976; Patent No. 3,752,701 of 1973 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.5 Amperes



Dimension in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RGP15A	RGP15B	RGP15D	RGP15G	RGP15J	RGP15K	RGP15M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.5							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50							A
Maximum Instantaneous Forward Voltage at 1.5A	1.3							V
Maximum DC Reverse Current, at Rated DC Blocking Voltage	5.0							μA
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length $T_A = 55^\circ\text{C}$	100							μA
Typical Junction Capacitance (Note 1)	25							pF
Maximum Reverse Recovery Time (Note 2)	150	150	150	150	250	500	500	ns
Operating and Storage Temperature Range T_J, T_{STG}	-65 to + 175							$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES **RGP15 SERIES**

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

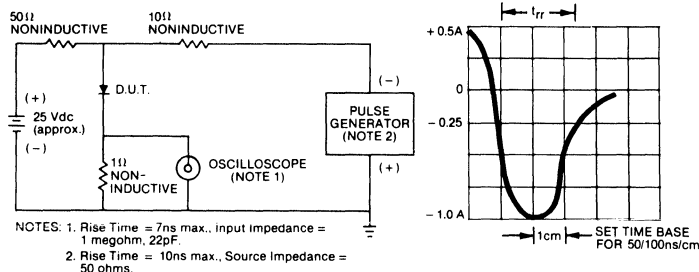


FIG. 2 — FORWARD CURRENT DERATING CURVE

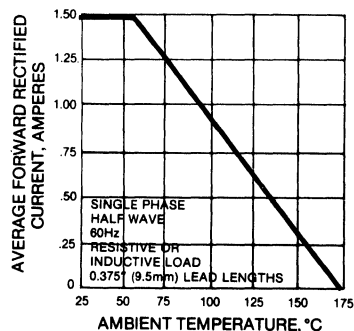


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

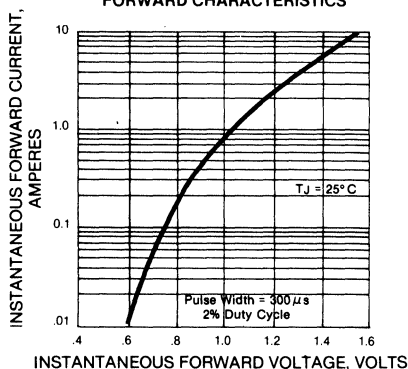


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

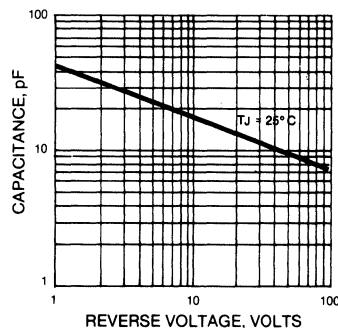


FIG. 5 — MAXIMUM NON-REPETITIVE SURGE CURRENT

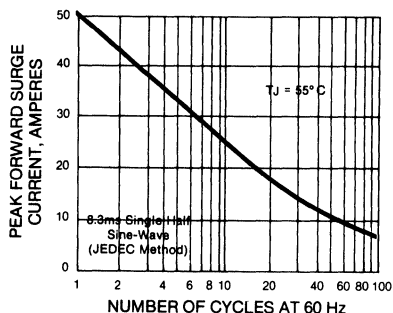
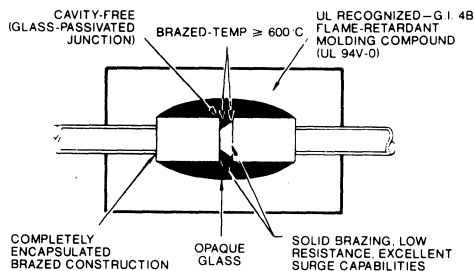


FIG. 6 — SUPERECTIFIER



RGP20 SERIES

GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in molded plastic package
- 2.0 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Fast switching for high efficiency
- Typical I_A less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per MIL-Method 208

Polarity: Band denotes cathode

Mounting Position: Any

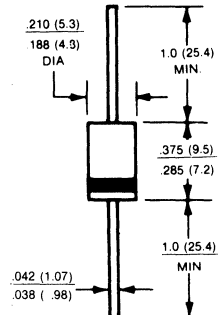
Weight: 0.03 ounce, 0.8 gram

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

2.0 Amperes



PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976, covered by Patent No. 3,930,306 of 1976, brazed-lead assembly by Patent No. 3,752,701 of 1973 and glass composition by Patent No. 3,752,701 of 1973
Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	RGP20A	RGP20B	RGP20D	RGP20G	RGP20J	RGP20K	RGP20M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at TA = 55°C	2.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	65							A
Maximum Instantaneous Forward Voltage at 2.0A	1.3							V
Maximum Reverse Current, TA = 25°C at Rated DC Blocking Voltage TA = 100°C	5.0 100							μA μA
Maximum Full Load Reverse Current, full Cycle Average, .375", (9.5mm) Lead Length TA = 55°C	100							μA
Typical Junction Capacitance (Note 1)	35							pF
Maximum Reverse Recovery Time (Note 2)	150				250	500		ns
Operating and Storage Temperature Range TJ, TSTG	-65 to +175							°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: $I_F = .5A$, $I_R = 1A$, $I_{rr} = .25A$.

RATINGS AND CHARACTERISTIC CURVES RGP20 SERIES

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

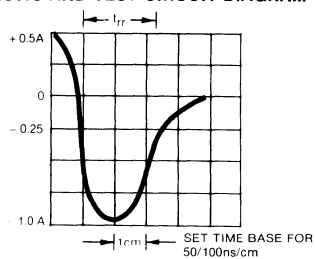
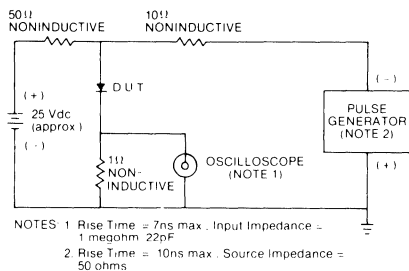


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

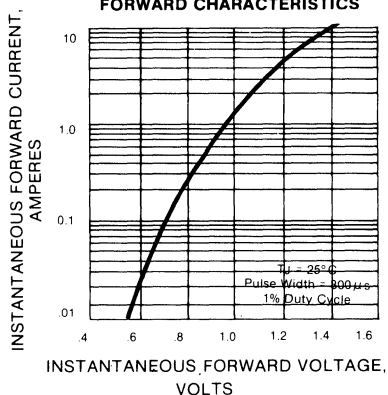


FIG. 2 — FORWARD CURRENT DERATING CURVE

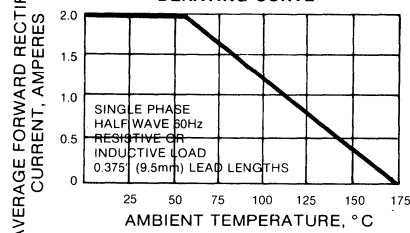


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

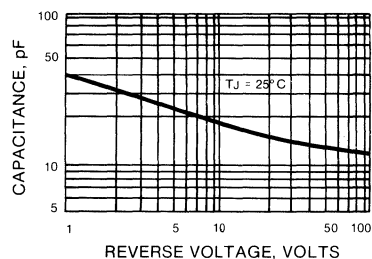


FIG. 5 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

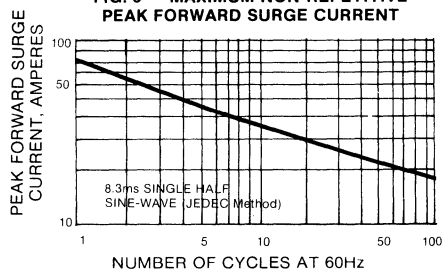
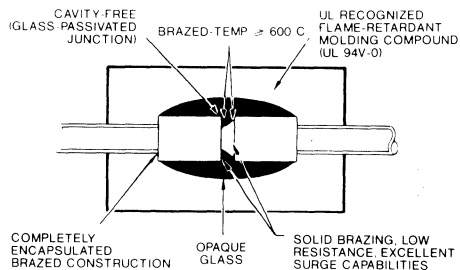


FIG. 6 — SUPERRECTIFIER



RGP25 SERIES

GLASS PASSIVATED JUNCTION PLASTIC FAST-SWITCHING RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded-no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 Utilizing General
- Glass passivated junction in DO-201AD package
- 2.5 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10\text{ seconds}/.375'' (9.5\text{mm})$ lead length at 5 lbs., (2.3kg) tension

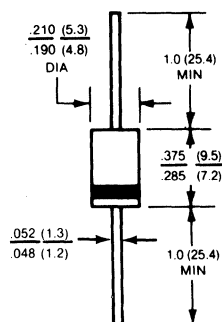
MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.04 ounce, 1.1 grams

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
2.5 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RGP25A	RGP25B	RGP25D	RGP25G	RGP25J	RGP25K	RGP25M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	700	200	400	600	800	1000	V
Maximum Forward Rectified Current .375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	2.5							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	100							A
Maximum Instantaneous Forward Voltage at 2.5A	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$	5.0							μA
Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) lead lengths at $T_A = 55^\circ\text{C}$	100							μA
Typical Junction Capacitance (Note 1)	40							pF
Maximum Reverse Recovery Time (Note 2)	150	150	150	150	250	500	500	ns
Operating and Storage Temperature Range, T_J , T_{STG}	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$

RATING AND CHARACTERISTIC CURVES **RGP25 SERIES**

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

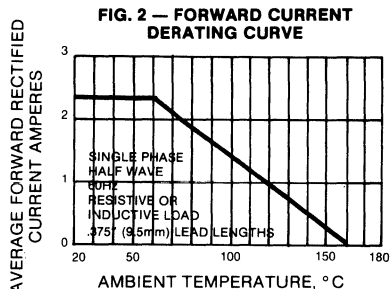
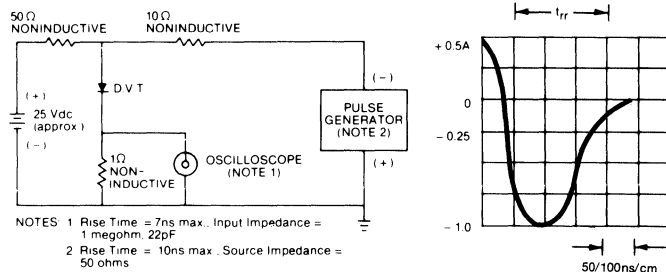


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

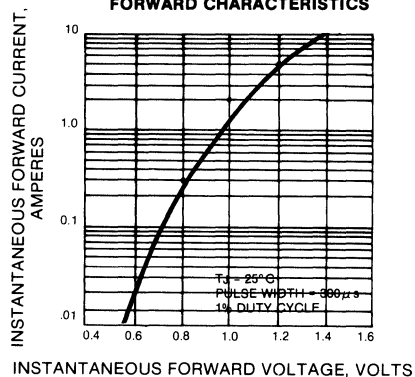


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

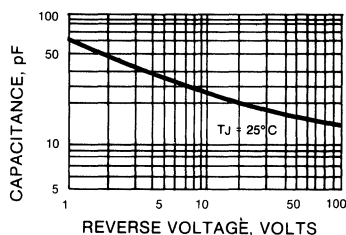


FIG. 5 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

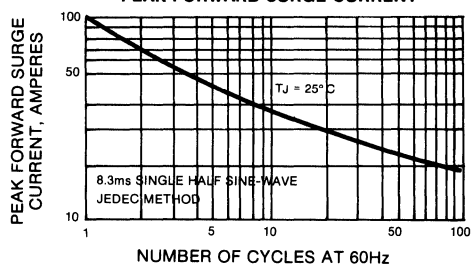
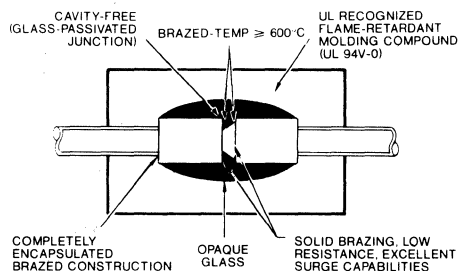


FIG. 6 — SUPERECTIFIER



1N5185GP THRU 1N5190GP

GLASS PASSIVATED JUNCTION PLASTIC FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded-no compression contacts as found in diode-constructed rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O.
- Glass passivated junction
- 3 ampere operation at $T_A = 25^\circ \text{C}$ with no thermal runaway.
- Typical I_R less than $1 \mu\text{A}$.
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $350^\circ \text{C}/10$ seconds/.375", 9.5mm lead length/5 lbs., 11 kg tension.

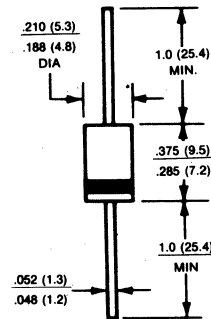
MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Axial leads,
solderable per
MIL-STD-202, Method 208
Polarity: Color band,
denote cathode
Mounting position: Any
Weight: 0.04 ounce, 1.1 grams

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE RANGE
50 to 600 Volts
CURRENT
3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N5185GP	1N5186GP	1N5187GP	1N5188GP	1N5189GP	1N5190GP	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	500	600	V
Maximum RMS Voltage	35	70	140	280	350	420	V
* Maximum DC Blocking Voltage	50	100	200	400	500	600	V
* Maximum Average Forward Current .375" 9.5 mm Lead at $T_A = 25^\circ \text{C}$	3.0						A
* Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	80						A
* Maximum Forward Voltage at 3.0A	1.1						V
* Maximum Reverse Current at ($T_A = 25^\circ \text{C}$) Rated DC Blocking Voltage ($T_A = 100^\circ \text{C}$)	5.0 100						μA
* Maximum Junction Capacitance (Note 1)	600	400	320	240	200	160	pF
* Maximum Reverse Recovery Time (Note 2)	250			300	350	400	ns
* Operating and Storage Temperature Range, T_J T_{STG}	-65 to +175						$^\circ \text{C}$

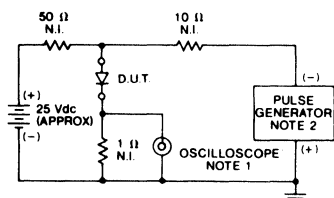
NOTES:

- 1) As measured at 1 MHz, $V_R = 0\text{V}$ Hz.
- 2) Reverse Recovery Test Conditions: $I_F = 1\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.5\text{A}$.

* JEDEC registered values.

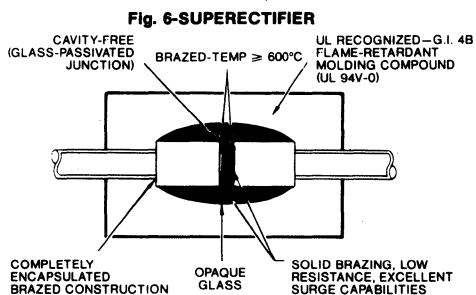
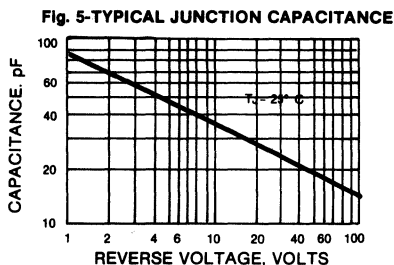
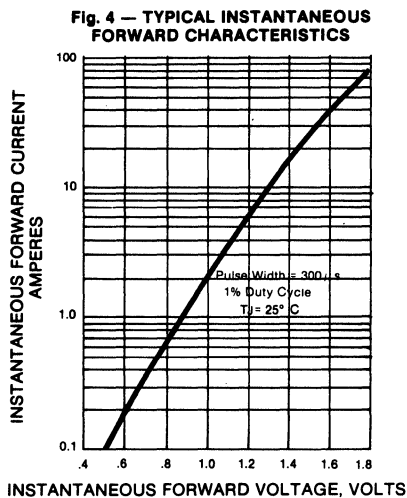
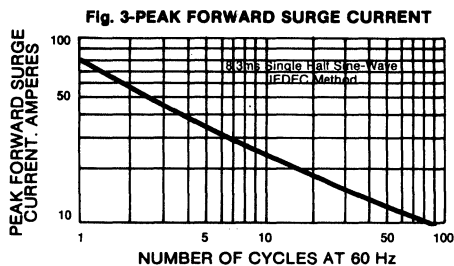
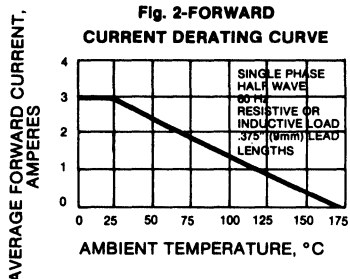
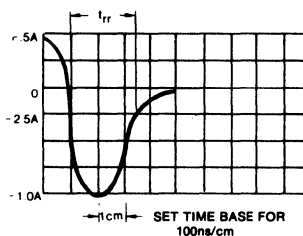
RATING AND CHARACTERISTIC CURVES **1N5185GP THRU 1N5190GP**

Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES:

1. RISE TIME = 7ns MAX, INPUT IMPEDANCE = MEGOHM, 22pF.
2. RISE TIME = 10ns MAX, SOURCE IMPEDANCE = 50 OHM.



RGP30 SERIES

GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Glass passivated junction in a DO-201AD package
- 3 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

MECHANICAL DATA

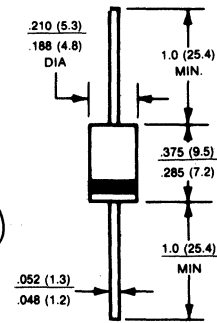
Case: Molded plastic over glass
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Band denotes cathode
Mounting Position: Any
Weight: 0.04 ounce, 1.12 grams

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,994,602 of 1976, Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE
50 to 1000 Volts

CURRENT
3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RGP30A	RGP30B	RGP30D	RGP30G	RGP30J	RGP30K	RGP30M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current, .375" (9.5mm) Lead Lengths at $T_A = 55^\circ\text{C}$	3.0							A
Peak Forward Surge Current 8.3ms single half wave superimposed on rated load (JEDEC method)	125							A
Maximum Instantaneous Forward Voltage at 3.0A	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage $T_J = 25^\circ\text{C}$	5.0							μA
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length $T_A = 55^\circ\text{C}$	100							μA
Typical Junction Capacitance (Note 1)	60							pF
Maximum Reverse Recovery Time (Note 2)	150	150	150	150	250	500	500	ns
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES
RGP30 SERIES

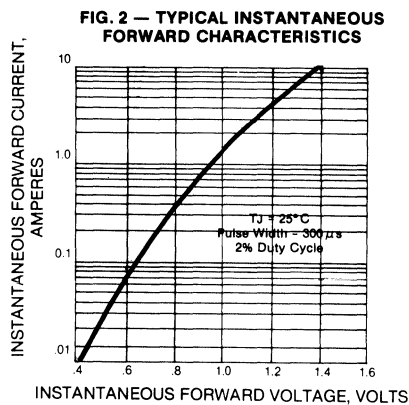
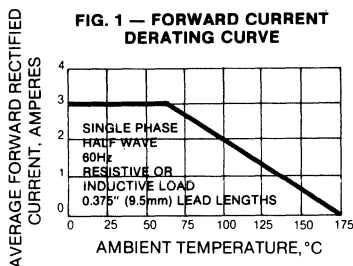


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

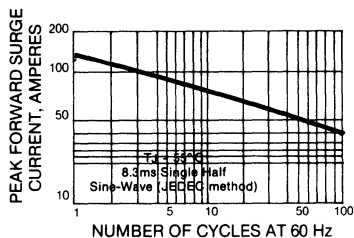


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

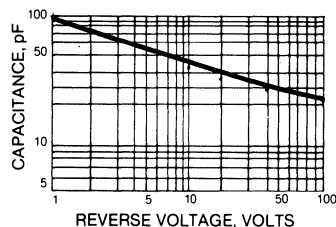


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

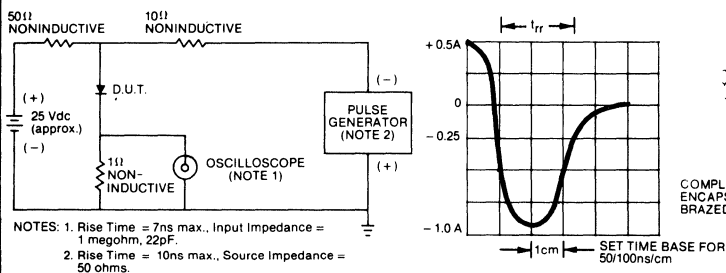
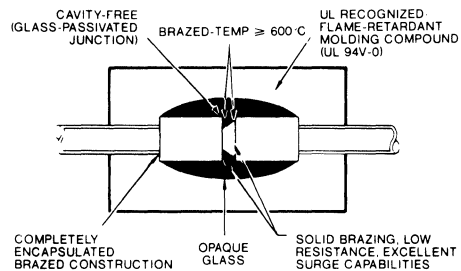


FIG. 6 — SUPERRECTIFIER



**GLASS PASSIVATED
RECTIFIERS
0.4 AMPERES TO 3.0 AMPERES
50 VOLTS TO 1400 VOLTS**

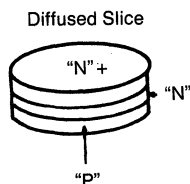
Device Design

The Glass Passivated Rectifier is a hermetically sealed, cavity-free, diffused junction rectifier with unsurpassed operating and surge characteristics at high temperature.

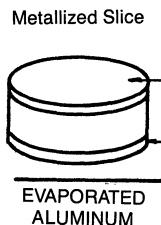
Cavity-free construction with a specially developed extremely pure glass in direct contact with the silicon junction plus durable heat sink design obviate the need for solder joints and compression contact parts. The carefully matched expansion characteristics of the glass and metal parts in combination with the direct contact of the glass and silicon junction make the active rectifying elements impervious to surface contamination, moisture or other external chemical agents. Further, the long term degradation associated with organic junction protection is avoided.

There are many steps necessary to produce such a device:

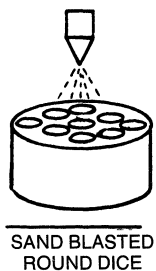
- 1—Diffuse a PN junction into a slice of silicon



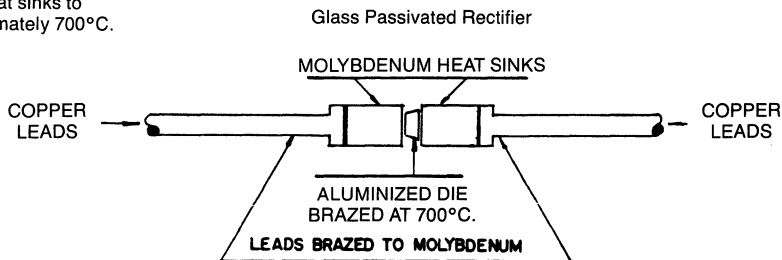
- 2—Evaporate aluminium on both sides of the slice to make metallurgical contact



- 3—Sandblast the slice to produce a round beveled die



- 4—Brazing the die between two molybdenum heat sinks to which leads have been attached at approximately 700°C.

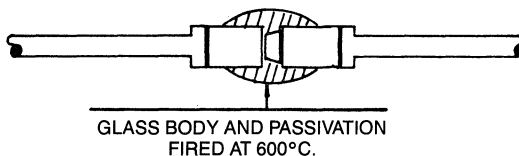


- 5—Clean the assembly by chemically etching, washing and drying.
6—Apply glass in the form of a frit to the die and molybdenum assembly.

- 7—Melt the glass by heating in an oven to approximately 600°C.

Glass Passivated Rectifier

- 8—Perform finishing operations such as lead tinning, electrical testing and marking.



Package Design

The small size of the glass package with its capability up to 3 Ampere permits greater packing densities in electronic assemblies and equipment, while increasing reliability. Furthermore, only high temperature brazing operations are used to withstand the 600°C required to melt and fuse the glass. This technique eliminates solder construction and tremendously enhances mechanical strength and temperature cycling capability, increasing operating and storage temperature range while reducing thermal resistance.

Reliability

Specified reliability data on Glass Passivated Rectifier devices are available from the General Instrument Semiconductor Components Division Reliability Department. The basic design of the Glass Passivated rectifier and the strict positive controls over materials and manufacturing processes provide assurance of failure-free performance under the most severe conditions. Processing facilities have been geared to follow the procedural requirements of Military Standard 750. Glass Passivated rectifiers are capable of withstanding environmental extremes in excess of MIL-S-19500/286 and of meeting the requirements of MIL-S-19500E, MIL-STD-883, MIL-Q-9858 and MIL-I-45208. Assurance of production uniformity and reliability is provided by a test technique called "Operational Load Line Testing," which has proven product reliability with over 1 Billion Glass Passivated rectifiers now in use.

Glass Passivated Silicon Diodes 0.2 to 0.4 AMPERES

Types:

1N483B thru 1N486B
1N645 thru 1N649

Features:

- High Temperature Metallurgically Bonded
- High Efficiency and Rectification Ratio
- Ideally Suited for Miniaturized Equipment
- Case: One Piece Glass, Hermetically Sealed
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208
- Operating from -65°C to $+175^{\circ}\text{C}$
- Low Leakage

Glass Passivated Silicon Rectifiers 1 to 3 AMPERES

Types:

1N3611 thru 1N3614
1N4245 thru 1N4249
1N5059 thru 1N5062
1N5550 thru 1N5554
1N5624 thru 1N5627
G1A thru G1M
G2A thru G2M
G3A thru G3M
G4A thru G4M

Features:

- Glass Passivated Junction
- High Mechanical Strength
- Storage up to 200°C
- Voidless Construction
- Hermetically Sealed
- Avalanche Operation
- Low Leakage
- High Conductance
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

Glass Passivated Fast Recovery Silicon Rectifiers 1 to 3 AMPERES

Types:

1N4942 thru 1N4948
1N5614 thru 1N5622
1N5615 thru 1N5623
1N5415 thru 1N5420
RG1A thru RG1M
RG2A thru RG2M
RG3A thru RG3M
RG4A thru RG4M

Features:

- Glass Passivated Junction
- Fast Switching for High Rectification Efficiency to 100 kHz
- High Mechanical Strength
- Low Leakage
- Hermetically Sealed
- Storage up to 200°C
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

Glass Passivated High Voltage Silicon Rectifiers

Types:

CG1, DG1
CG63, DG63

Features:

- All Advantages of a Hermetically Sealed Glass Passivated Junction
- Especially designed for Clamper/Damper Applications in Television CRT
- Low Leakage
- High Mechanical Strength
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

QUICK GUIDE TO GLASS PASSIVATED RECTIFIERS

TYPE	1N483B thru 1N486B	1N645 thru 1N649	1N3611 thru 1N3614	1N4245 thru 1N4249	1N4942* thru 1N4948*	1N5059 thru 1N5062	1N5614 thru 1N5622	1N5615* thru 1N5623*	G1A thru G1M	RG1A* thru RG1M*	TYPE
CASE	DO204MB	DO204MB	DO204AP	DO204AP	DO204AP	DO204AP	DO204AP	DO204AP	DO204AP	DO204AP	CASE
I_o (A)	0.2	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	I_o (A)
@ T_A (°C)	25	25	100	55	55	55	55	55	100	55	@ T_A (°C)
$V_R = 50$ (V)	1N483B								G1A	RG1A	$V_R = 50$ (V)
$V_R = 100$ (V)	1N485B								G1B	RG1B	$V_R = 100$ (V)
$V_R = 200$ (V)	1N486B	1N645	1N3611	1N4245	1N4942	1N5059	1N5614	1N5615	G1D	RG1D	$V_R = 200$ (V)
$V_R = 300$ (V)		1N646			1N4943						$V_R = 300$ (V)
$V_R = 400$ (V)		1N647	1N3612	1N4246	1N4944	1N5060	1N5616	1N5617	G1G	RG1G	$V_R = 400$ (V)
$V_R = 500$ (V)		1N648			1N4945						$V_R = 500$ (V)
$V_R = 600$ (V)		1N649	1N3613	1N4247	1N4946	1N5061	1N5618	1N5619	G1J	RG1J	$V_R = 600$ (V)
$V_R = 800$ (V)			1N3614	1N4248	1N4947	1N5062	1N5620	1N5621	G1K	RG1K	$V_R = 800$ (V)
$V_R = 1000$ (V)			1N3967	1N4249	1N4948		1N5622	1N5623	G1M	RG1M	$V_R = 1000$ (V)
$V_R > 1000$ (V)											$V_R > 1000$ (V)
SURGE (A)	2.0	15	30	25	30	50	50	50	50	30	SURGE (A)
V_F (V)	1.0	1.0	1.1	1.2	1.3	1.2	1.2	1.2	1.1	1.3	V_F (V)
Page		216		218	242	220	222	244	224	246	Page

*Fast Recovery

QUICK GUIDE TO GLASS PASSIVATED RECTIFIERS

TYPE	CG1 and DG1	G2A thru G2M	RG2A* thru RG2M*	1N5624 thru 1N5627	1N5550 thru 1N5559	1N5415 thru 1N5420	G3A thru G3M	G4A thru G4M	RG3A* thru RG3M*	RG4A thru RG4M	CG3 and DG3	TYPE
CASE	DO204AP	DO204AP	DO204AP	GPR3	GPR3	GPR3	GPR3	GPR3	GPR3	GPR3	GPR3	CASE
I_o (A)	1.5	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	I_o (A)
T_A (°C)	55	70	55	70	55	55	70	70	55	50	50	T_A (°C)
$V_R = 50$ (V)		G2A	RG2A			1N5415	G3A	G4A	RG3A	RG4A		$V_R = 50$ (V)
$V_R = 100$ (V)		G2B	RG2B			1N5416	G3B	G4B	RG3B	RG4B		$V_R = 100$ (V)
$V_R = 200$ (V)		G2D	RG2D	1N5624	1N5550	1N5417	G3D	G4D	RG3D	RG4D		$V_R = 200$ (V)
$V_R = 300$ (V)												$V_R = 300$ (V)
$V_R = 400$ (V)		G2G	RG2G	1N5625	1N5551	1N5418	G3G	G4G	RG3G	RG4G		$V_R = 400$ (V)
$V_R = 500$ (V)						1N5419						$V_R = 500$ (V)
$V_R = 600$ (V)		G2J	RG2J	1N5626	1N5552	1N5420	G3J	G4J	RG3J	RG4J		$V_R = 600$ (V)
$V_R = 800$ (V)		G2K	RG2K	1N5627	1N5553		G3K	G4K	RG3K	RG4K		$V_R = 800$ (V)
$V_R = 1000$ (V)		G2M	RG2M		1N5554		G3M	G4M	RG3M	RG4M		$V_R = 1000$ (V)
$V_R > 1000$ (V)	CG1/DG1										CG3/DG3	$V_R > 1000$ (V)
SURGE (A)	50	50	65	125	100	80	125	125	100	100	125	SURGE (A)
V_F (V)	1.0	1.2	1.3	1.0	1.2/1.3	1.1	1.1	1.1	1.3	1.3	1.2	V_F (V)
Page	226	228	248	232	230	250	234	236	252	254	238	Page

*Fast Recovery

MINIATURE GLASS PASSIVATED SILICON DIODES

GENERAL INSTRUMENT



- High temperature metallurgically bonded - no compression contacts as found in diode-constructed rectifiers
- 0.4 amperes operation at $T_A = 25^\circ\text{C}$ with no thermal runaway
- Ideally suited for miniaturized equipment
- Exceeds environmental standards of MIL-STD-19500/240.
- High temperature soldering Guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension
- Glass passivated junction

Case: One piece glass, hermetically sealed
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: .02 ounce .56 gram

PATENT
Brazed-lead assembly is covered by Patent No.
3,930,306 of 1976 and glass composition by
Patent No. 3,752,701 of 1973

400 Milliampères

Dimensions in inches and (millimeters)

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N645	1N646	1N647	1N648	1N649	UNITS
* Maximum Recurrent Peak Reverse Voltage	225	300	400	500	600	V
Maximum RMS Voltage	156	210	280	350	420	V
Maximum DC Blocking Voltage	225	300	400	500	600	V
* Minimum Avalanche Breakdown Voltage at T _A = 100°C	275	360	480	600	720	V
* Maximum Average Forward Rectified Current T _A = 25°C .375", (9.5mm) Lead Length at T _A = 150°C	400 150					mA mA
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	15					A
* Maximum Instantaneous Forward Voltage at 400mA	1.0					V
* Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C T _A = 100°C	0.2					μA
	15	15	20	20	25	μA
Typical Junction Capacitance (Note 1)	15					pF
Operating and Temperature Range T _J	-65 to +175					°C
Storage Temperature Range T _{STG}	-65°C to +200°C					°C

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC
2. Available to Jan and Jan TX Military Specifications MIL-S-19500/240
* JEDEC Registered Value

RATING AND CHARACTERISTIC CURVES
1N645 THRU 1N649 SERIES

FIG. 1 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

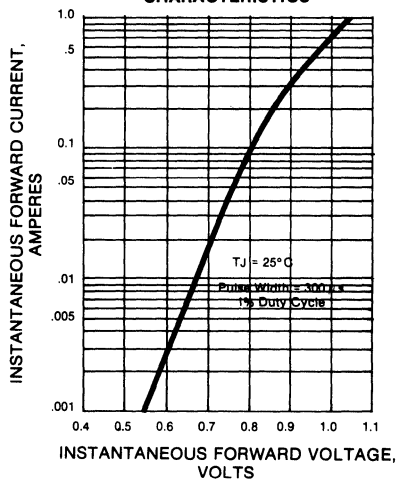


FIG. 2 — TYPICAL REVERSE LEAKAGE CHARACTERISTICS

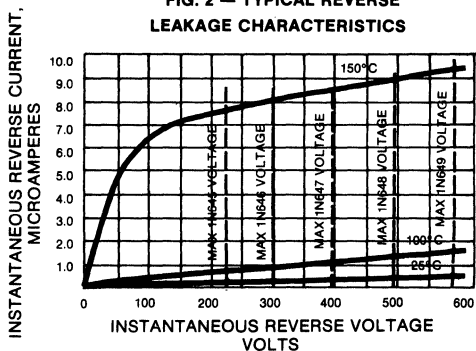


FIG. 3 — FORWARD CURRENT DERATING CURVE

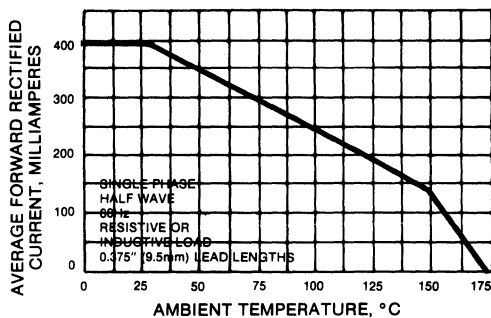


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

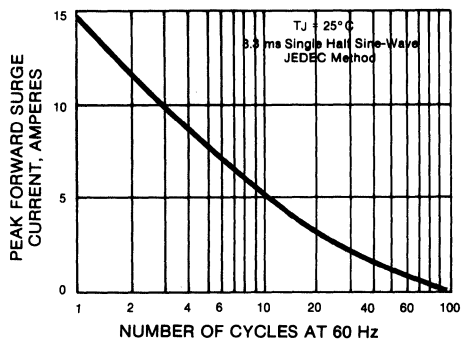
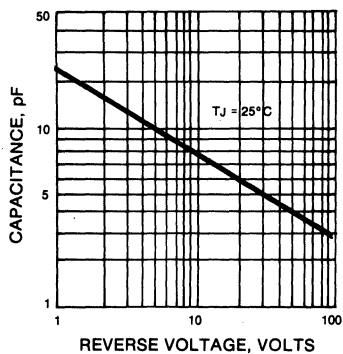


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



1N4245 THRU 1N4249

GLASS PASSIVATED SILICON RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO-204AP package
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.5\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Hermetically sealed package
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: .02 ounce, .56 gram

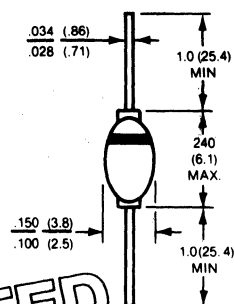
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-204AP



PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,792,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N4245	1N4246	1N4247	1N4248	1N4249	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
* Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Maximum Average Forward Rectified Current .375", (9.5mm) lead lengths at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	25					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.2					V
* Maximum Full Load Reverse Current, Full Cycle Average .375", (9.5mm) Lead Lengths at $T_A = 55^\circ\text{C}$	50					μA
* Maximum Reverse Current at Rated DC Blocking Voltage	1.0					μA
	25					μA
Typical Junction Capacitance (Note 2)	15					pF
* Operating Temperature Range T_J	-65 to +160					$^\circ\text{C}$
* Storage Temperature Range, T_{STG}	-65 to +200					$^\circ\text{C}$

NOTES:

1. Available to JAN and JANTX Military Specification MIL-S-A500/286.

2. Measured at 1MHz and applied reverse voltage of 4.0 Volts.

* JEDEC Registered Values.

RATING AND CHARACTERISTIC CURVES
1N4245 THRU 1N4249

FIG. 1 — FORWARD DERATING CURVE

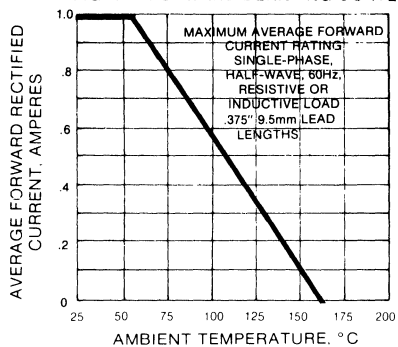


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

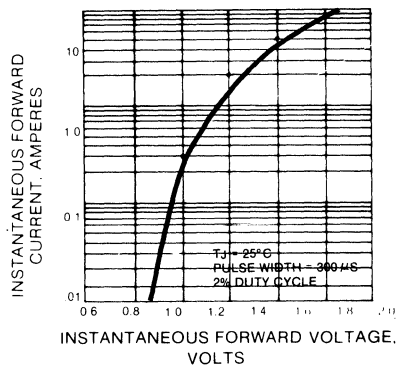


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

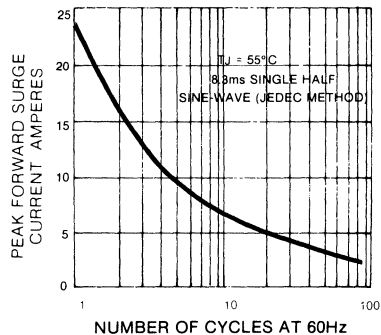


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

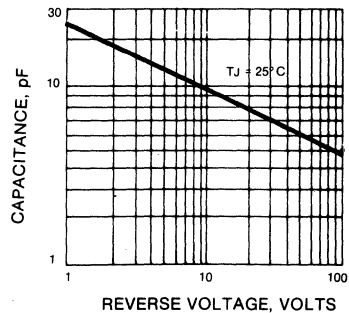
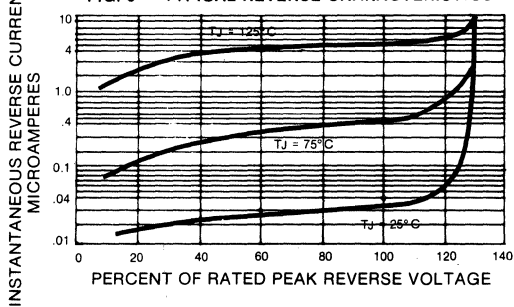


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



1N5059 THRU 1N5062

MINIATURE GLASS PASSIVATED JUNCTION RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO-204AP package
- 1 ampere operation $T_A = 75^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1.0 \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/.375"$, (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: .02 ounce, .56 gram

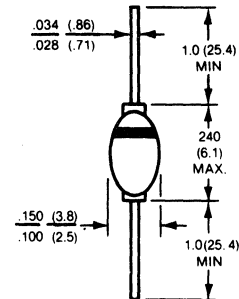
VOLTAGE RANGE

200 to 800 Volts

CURRENT

1.0 Ampere

DO-204AP



PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N5059	1N5060	1N5061	1N5062	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Voltage	140	280	420	560	V
* Maximum DC Blocking Voltage	200	400	600	800	V
* Maximum Average Forward Rectified Current .375", (9.5mm) lead length at TA = 75°C	1.0				A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50				A
* Maximum Instantaneous Forward-Voltage at 1.0A TA = 75°C	1.2				V
* Maximum Full Load Reverse Current, TA = 25°C	5.0				μA
Full Cycle Average, .375" (9.5mm) lead lengths at TA = 75°C	150	100			μA
* Maximum DC Reverse Current TA = 25°C	5.0				μA
at rated DC Blocking Voltage TA = 175°C	300	200			μA
Typical Reverse Recovery Time (Note 1)	2.0				μs
Typical Junction Capacitance (Note 2)	15				pF
* Operating and Storage Temperature Range, TJ, TSTG	-65 to +175				°C

NOTES:

1. Reverse Recovery Test Conditions: $I_F = 5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

* JEDEC Registered Value.

RATING AND CHARACTERISTIC CURVES
1N5059 THRU 1N5062

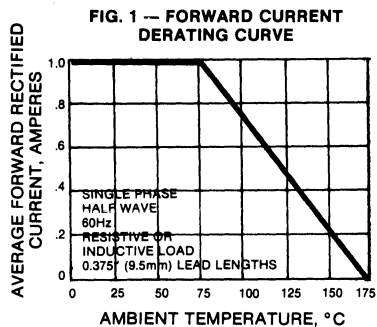


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

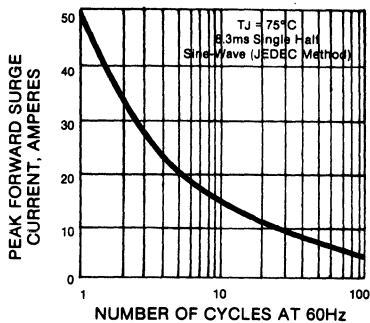


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

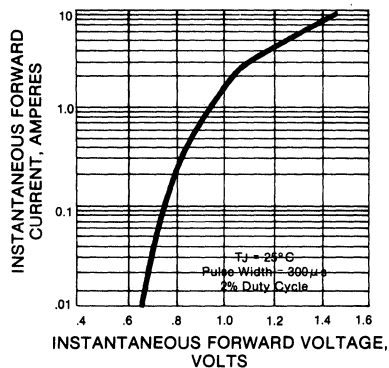


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

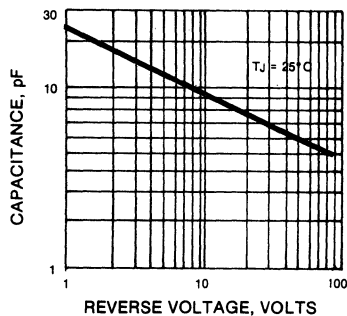


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

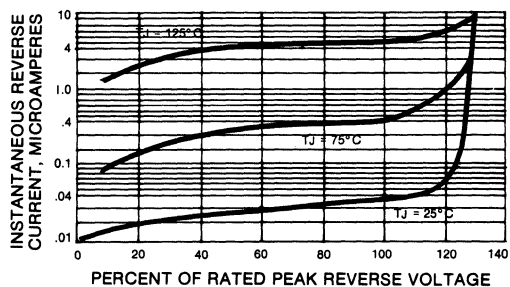
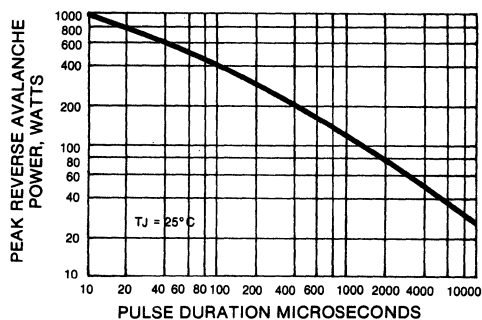


FIG. 6 — MAXIMUM NON-REPETITIVE REVERSE AVALANCHE POWER



1N5614 THRU 1N5622

MINIATURE GLASS PASSIVATED JUNCTION MEDIUM SWITCHING RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO-204AP package.
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Medium switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color and denotes cathode
 Mounting Position: Any
 Weight: .02 ounce, .56 gram

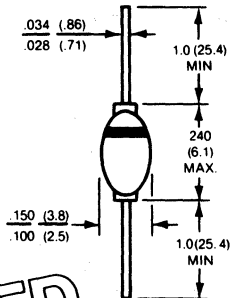
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-204AP



PATENTED
 Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	1N5614	1N5616	1N5618	1N5620	1N5622	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Minimum Avalanche Breakdown Voltage at $50\ \mu\text{A}$	220	440	660	880	1100	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.2					V
* Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ $T_A = 200^\circ\text{C}$	0.5 25.0 1500					μA μA μA
* Maximum Reverse Recovery Time (Note 1)	2.0					μs
* Maximum Junction Capacitance (Note 2)	45	35	25	20	15	pF
* Operating Temperature Range, T_J	-65 to +175					$^\circ\text{C}$
* Storage Temperature Range, T_{STG}	-65 to +200					$^\circ\text{C}$

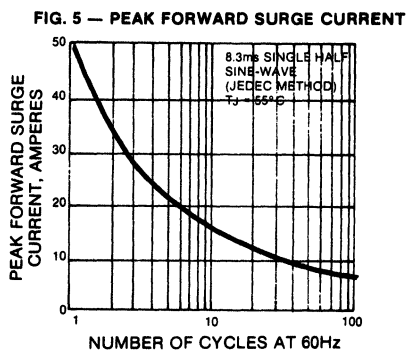
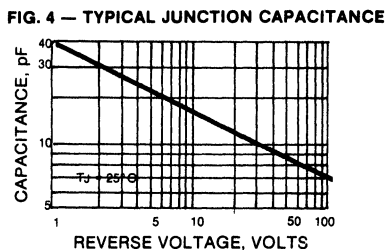
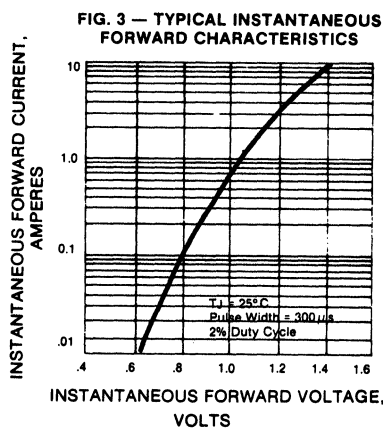
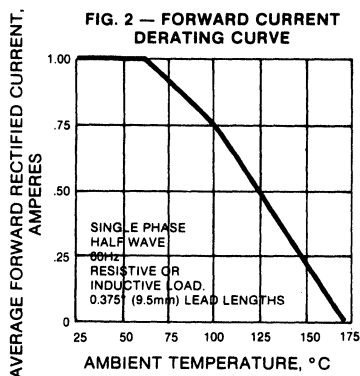
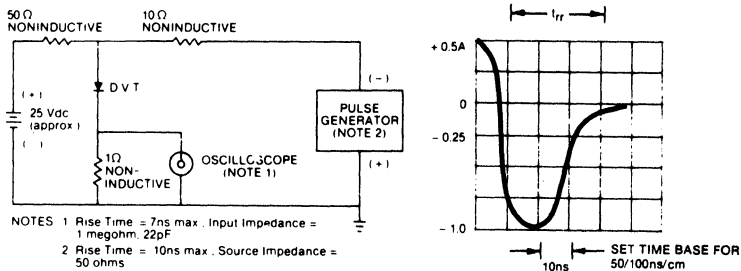
NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = .25\text{A}$
2. Measured at 1 MHz and applied reverse voltage of 12 volts.

3. Available to Jan and Jan TX Military Specifications MIL-S-19500/427.
- * JEDEC Registered Value.

RATING AND CHARACTERISTIC CURVES
1N5614 THRU 1N5622 SERIES

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



G1 SERIES

MINIATURE GLASS PASSIVATED JUNCTION RECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in a DO-204AP package
- 1 ampere operation at $T_A = 100^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10\ \text{sec}$ — $.375''$ (9.5mm) lead length/5 lbs., (2.3kg) tension

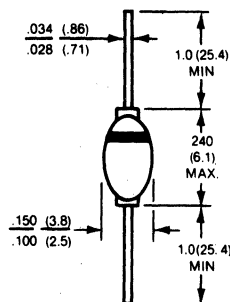
MECHANICAL DATA

Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .02 ounce, .56 gram

VOLTAGE RANGE
 50 to 1000 Volts

CURRENT
 1.0 Ampere

DO-204AP



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

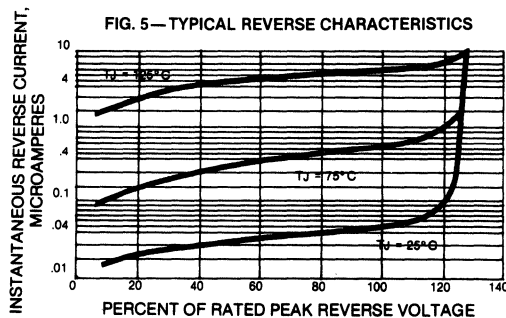
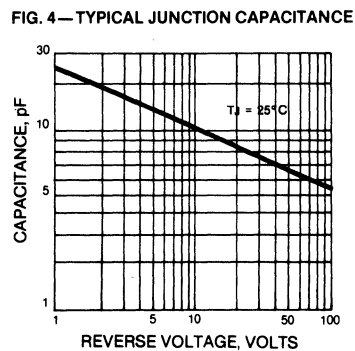
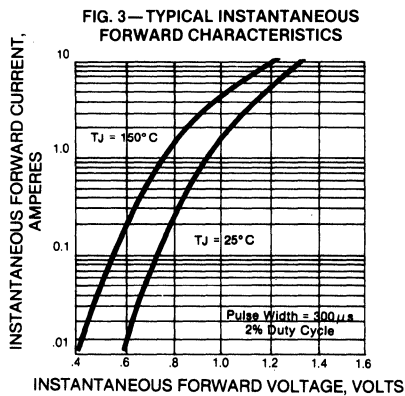
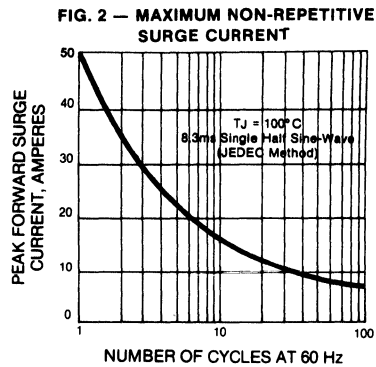
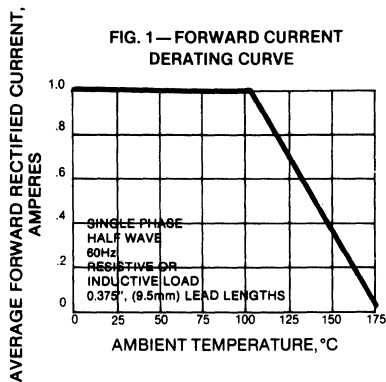
Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	G1A	G1B	G1D	G1G	G1J	G1K	G1M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current, .375" (9.5mm) Lead Length at T _A = 100°C	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50							A
Maximum Instantaneous Forward Voltage at 1.0A	1.2		1.1					V
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length at T _A = C	200							μ A
Maximum DC Reverse Current at Rated DC Blocking Voltage	2.0							μ A
Typical Reverse Recovery Time (Note 1)	2.0							μ s
Typical Junction Capacitance (Note 2)	15							pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +175							°C

NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

RATING AND CHARACTERISTIC CURVES
G1 SERIES



CG1/DG1 SERIES

GLASS PASSIVATED JUNCTION RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

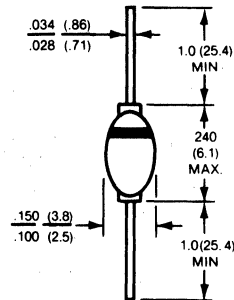
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in a DO-204AP package
- 1.5 ampere operation at $T_A = 50^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: .02 ounce, .56 gram

VOLTAGE RANGE
1400 Volts

CURRENT
1.5 Amperes



PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	CG1	DG1	UNITS
Maximum Recurrent Peak Reverse Voltage	1400	1400	V
Maximum RMS Voltage	980	980	V
Maximum DC Blocking Voltage	1400	1400	V
Maximum Average Forward Rectified Current, .375" (9.5mm) Lead Length at $T_A = 50^\circ\text{C}$	1.5		A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50		A
Maximum Instantaneous Forward Voltage at 1.0A	1.1		V
Maximum Full Load Reverse Current, Full Cycle Average, .375" (9.5mm) Lead Length at $T_A = 100^\circ\text{C}$	200		μA
Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	5.0 100		μA
Maximum Reverse Recovery Time (Note 1)	15	20	s
Typical Junction Capacitance (Note 2)	15		pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175		$^\circ\text{C}$

NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 50\text{mA}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

RATING AND CHARACTERISTIC CURVES
CG1/DG1 Series

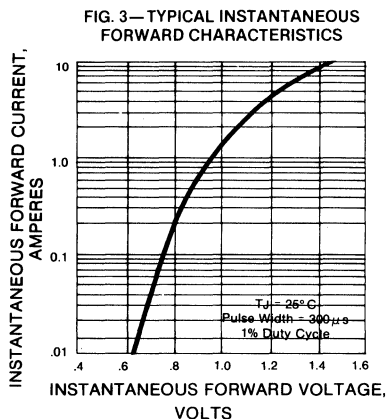
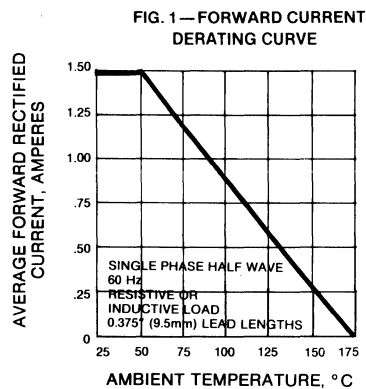


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

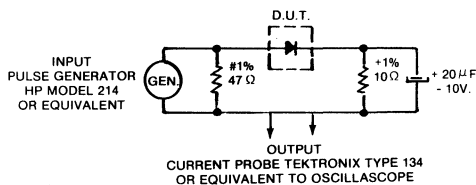


FIG. 2 — MAXIMUM NON REPETITIVE PEAK FORWARD SURGE CURRENT

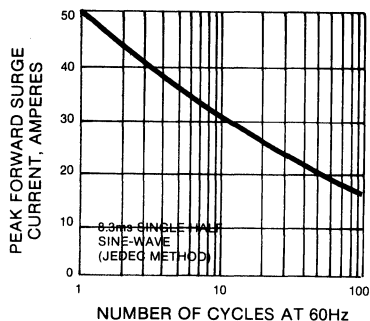


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

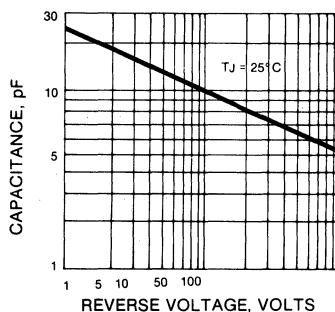
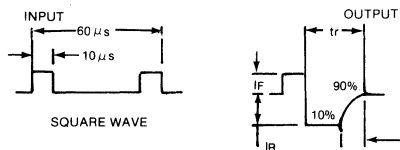
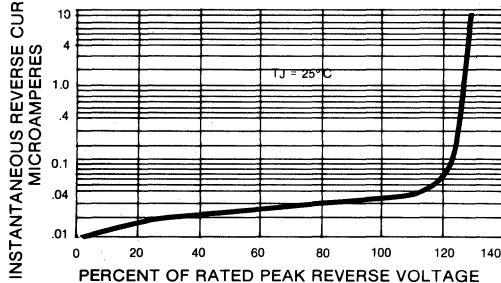


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



G2 SERIES

MINIATURE GLASS PASSIVATED JUNCTION RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in a DO-204AP package
- 2 ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.1 \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds, .375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .02 ounce, .56 gram

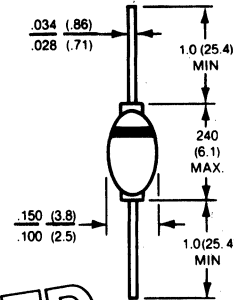
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

2.0 Amperes

DO-204AP



PATENTED
 Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

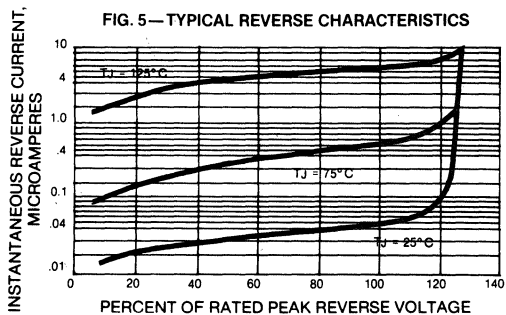
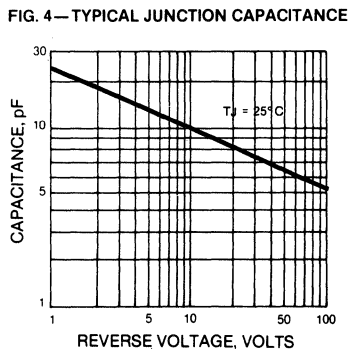
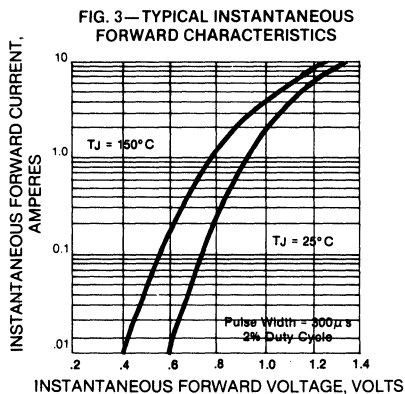
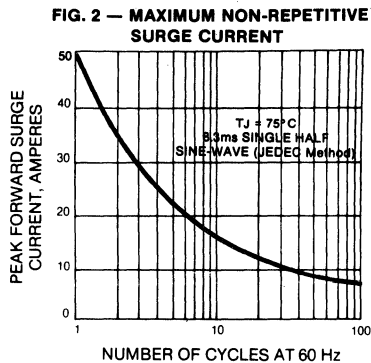
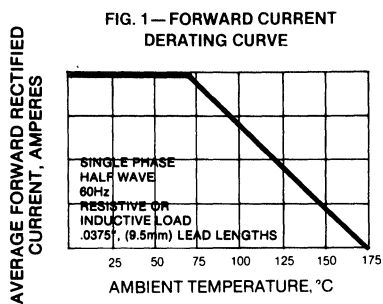
Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	G2A	G2B	G2D	G2G	G2J	G2K	G2M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current, .375, (9.5mm) Lead Lengths at T _A = 75°C	2.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50							A
Maximum Instantaneous Forward Voltage at 2.0A	1.2	1.1						V
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length T _A = 100°C	100							μA
Maximum DC Reverse Current, at Rated DC Blocking Voltage	1.0							μA
Typical Reverse Recovery Time (Note 1)	2.0							μs
Typical Junction Capacitance (Note 2)	15							pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +175							°C

NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

RATINGS AND CHARACTERISTIC CURVES **G2 SERIES**



1N5550 THRU 1N5554

GLASS PASSIVATED SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- High temperature metallurgically bonded — no compression contacts as found in many competitive devices
- Exceeds environmental standard of MIL-STD-19500
- 3.0 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- High temperature soldering guaranteed: 350°C 10 seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

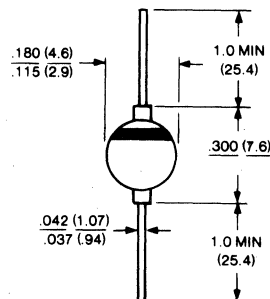
Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting position: Any
 Weight: .037 ounce, 1.04 gram

VOLTAGE RANGE

200 to 1000 Volts

CURRENT

3.0 Amperes



PATENTED
 Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	1N5550	1N5551	1N5552	1N5553	1N5554	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Minimum Reverse Breakdown Voltage at 50 μA	240	460	660	880	1100	V
* Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at T _A = 55°C T _L = 55°C	3.0 5.0					A A
Peak Forward Surge Current, 8.3ms single half sine-wave (JEDEC method)	100					A
Maximum Foward Voltage at 9.0A	1.2		1.3			V
* Maximum Reverse Current, at Rated DC Blocking Voltage T _A = 25°C T _A = 100°C	1.0 75					μA μA
Maximum Reverse Recovery Time (Note 1)	2.0					μs
Operating Temperature Range T _J	-65 to +175					°C
* Storage Temperature Range T _A	-65 to +200					°C

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Available to Jan and Jan TX Military Specifications MIL-S-19500/420A.

* JEDEC Registered Values

RATING AND CHARACTERISTIC CURVES
1N5550 THRU 1N5554

FIG. 1 — FORWARD CURRENT DERATING CURVE

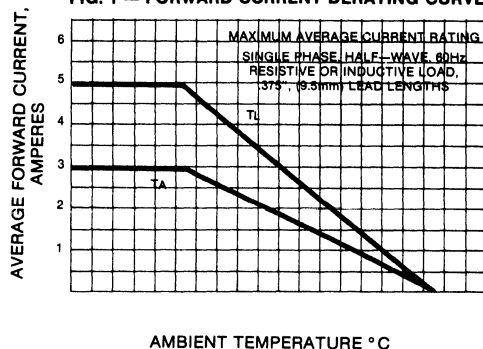


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

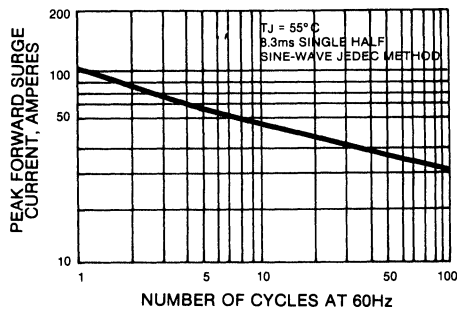


FIG. 3 — TYPICAL REVERSE CHARACTERISTICS

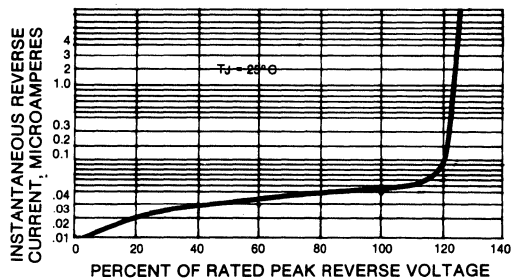


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

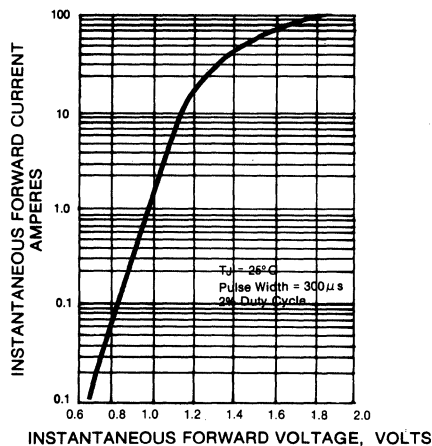
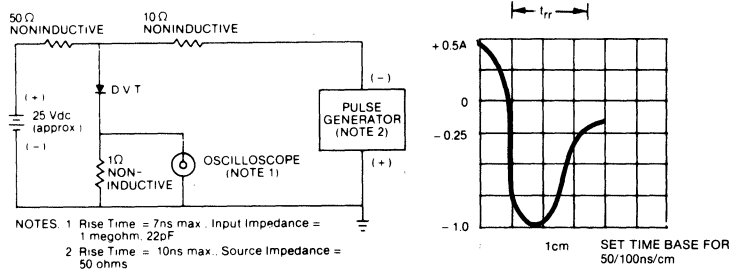


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



1N5624 THRU 1N5627

GLASS PASSIVATED JUNCTION RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

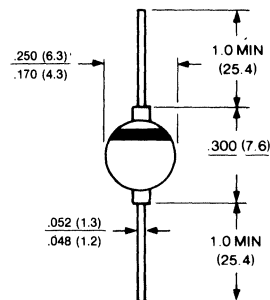
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction.
- 3.0 ampere operation at $T_A = 70^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
 Terminals: Axials leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .037 ounce, 1.04 grams

VOLTAGE RANGE
50 to 800 volts

CURRENT
3.0 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	1N5624	1N5625	1N5626	1N5627	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Voltage	140	280	420	560	V
* Maximum DC Blocking Voltage	200	400	600	800	V
* Maximum Average Forward Rectified Current .375", (9.5mm) lead length at $T_A = 70^\circ\text{C}$	3.0				A
* Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125				A
* Maximum Instantaneous Forward voltage at 3.0A	$T_A = 25^\circ\text{C}$				V
	$T_A = 70^\circ\text{C}$				V
* Maximum Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$				μA
	$T_A = 175^\circ\text{C}$				μA
* Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) lead length at $T_A = 70^\circ\text{C}$	150				μA
Typical Junction Capacitance (Note 1)	40				pF
* Storage Temperature Range T_{STG}	-65 to +200				$^\circ\text{C}$
* Operating Temperature Range T_J	-65 to +175				$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.
2. Available to Jan and Jan TX Military Specifications MIL-S-19500/432.
- * JEDEC Registered Value

RATING AND CHARACTERISTIC CURVES
1N5624 THRU 1N5627

FIG. 1 — FORWARD CURRENT DERATING CURVE

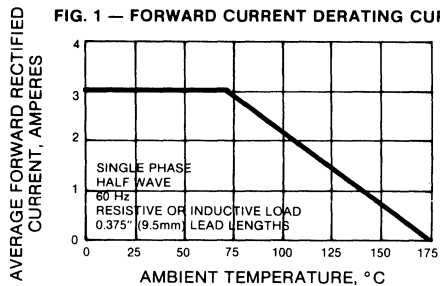


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

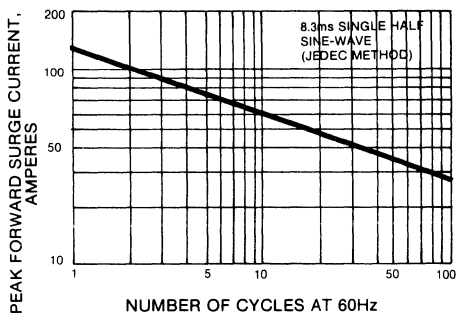


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

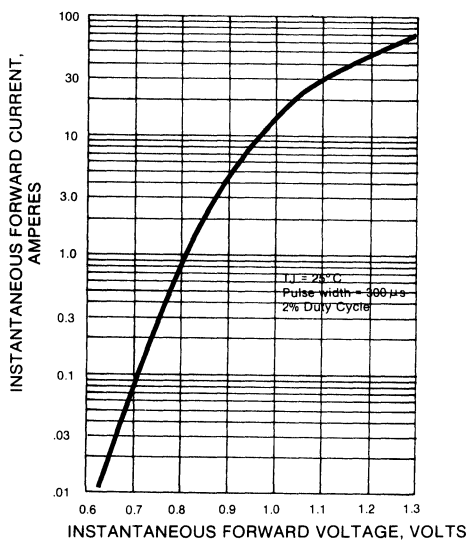


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

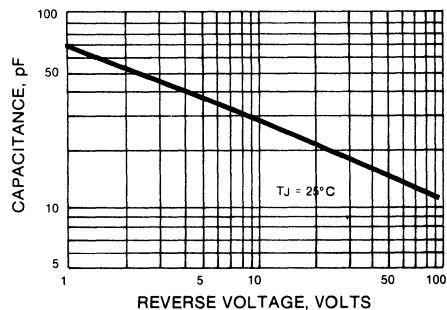
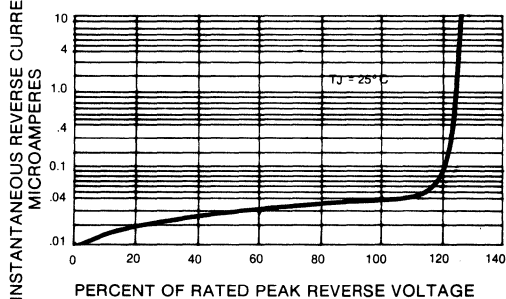


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



G3 SERIES

GLASS PASSIVATED JUNCTION RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- High temperature metallurgically bonded—no compression contact as found in diode-constructed rectifiers
- Glass passivated junction
- 3 ampere operation at $T_A = 70^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10\text{ seconds}/.375"$ (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

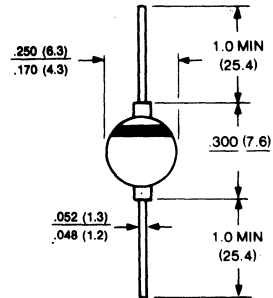
Case: One piece glass, hermetically sealed
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: .04 ounce, 1.1 gram

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes



Dimensions in inches and (millimeters)

PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

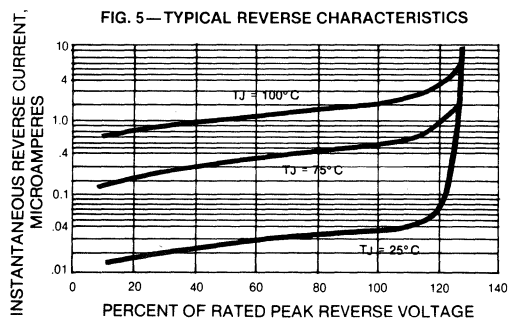
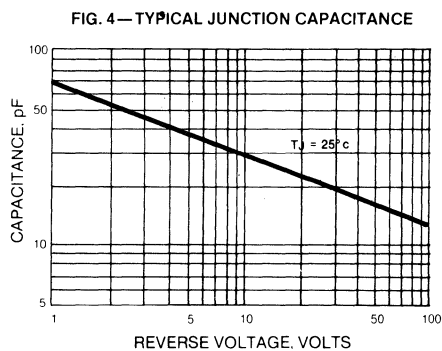
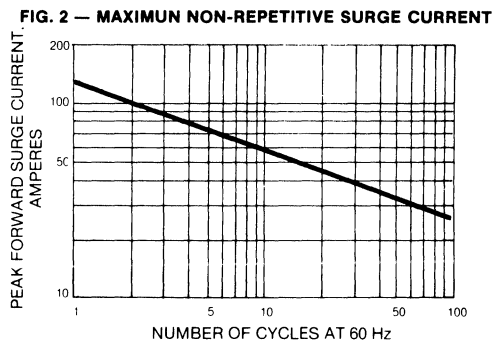
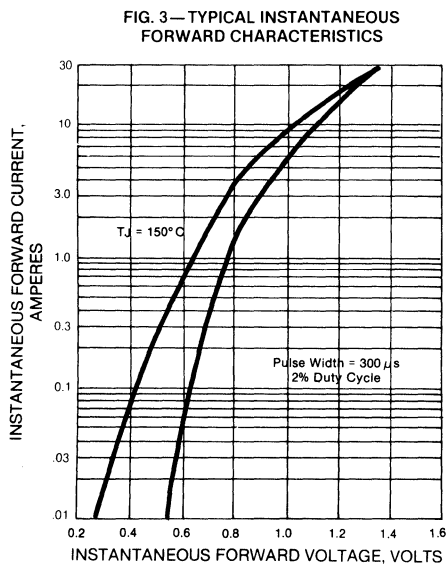
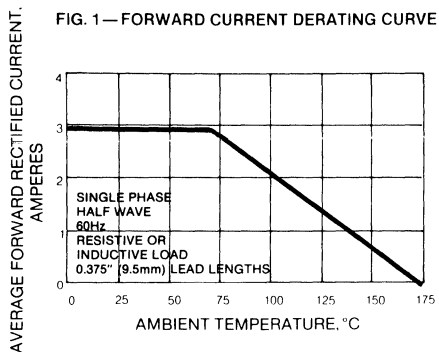
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	G3A	G3B	G3D	G3G	G3J	G3K	G3M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at T _A = 70°C	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125							A
Maximum Instantaneous Forward Voltage at 3.0A	1.2	1.1						V
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length T _A = 70°C	200							μA
Maximum DC Reverse Current, at Rated DC Blocking Voltage	5.0							μA
Typical Reverse Recovery Time (Note 1)	3.0							μs
Typical Junction Capacitance (Note 2)	40							pF
Operating and Storage Temperature Range T _J , T _{stg}	-65 to +175							°C

NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 VDC.

**RATING AND CHARACTERISTIC CURVES
G3 SERIES**



G4 SERIES

GLASS PASSIVATED SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in many competitive devices
- Exceeds environmental standards of MIL-STD-19500
- 3.0 ampere operation at $T_A = 70^\circ\text{C}$ with no thermal runaway
- Glass composition is covered by Patent No. 3,752,701-1971
- High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds/ 375° , (9.5mm) lead length/5 lbs., (2.3kg) tension
- Typical I_R less than $1\ \mu\text{A}$

MECHANICAL DATA

Case: One piece glass, hermetically sealed

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

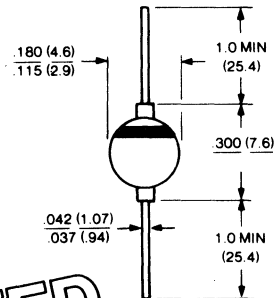
Weight: .037 ounce, 1.04 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes



PATENTED
Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	G4A	G4B	G4D	G4G	G4J	G4K	G4M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Length at $T_A = 70^\circ\text{C}$	3.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125							A
Maximum Instantaneous Forward Voltage at 3.0A	1.1							V
Maximum Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$	5.0							μA
Maximum Average Reverse Current at Peak Reverse Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	1.0 100							μA μA
Maximum Full Load Reverse Current, Full Cycle Average, .375", 9.5mm Lead Length at $T_A = 70^\circ\text{C}$	200							μA
Typical Junction Capacitance (Note 1)	30							pF
Typical Reverse Recovery Time (Note 2)	3.0							μs
Storage and Operating Temperature Range T_{STG}, T_J	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES **G4 SERIES**

Fig. 1—FORWARD CURRENT DERATING CURVE

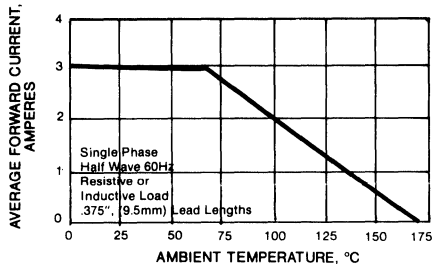


Fig. 3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

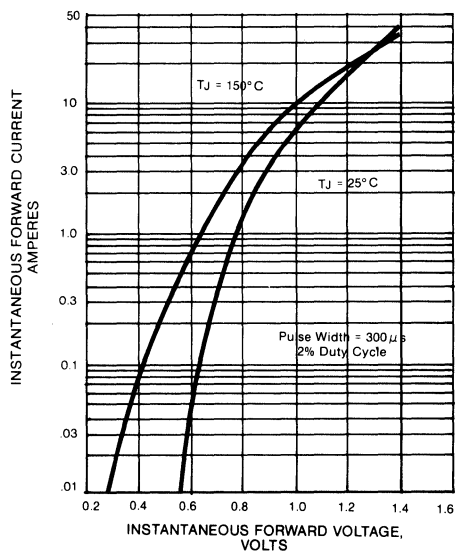


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

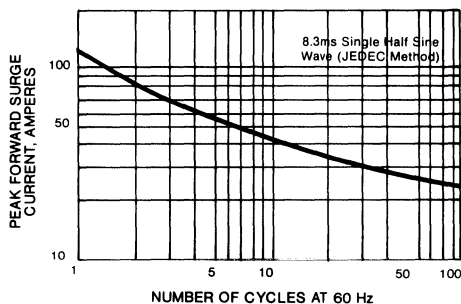


Fig. 4—TYPICAL JUNCTION CAPACITANCE

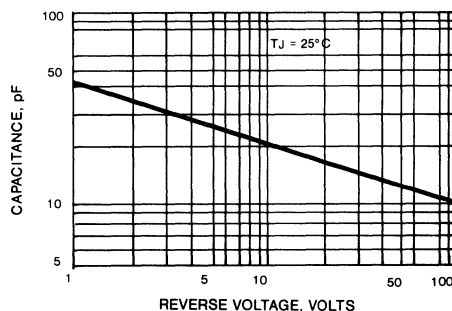
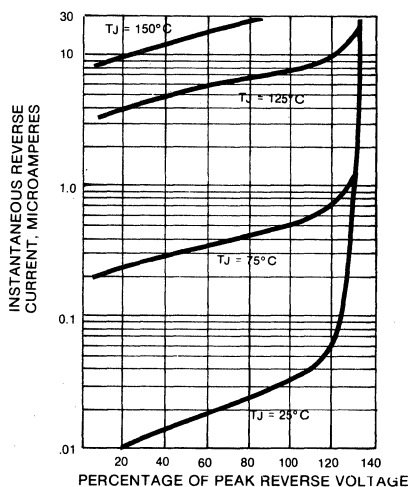


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



CG3/DG3 SERIES

MINIATURE GLASS PASSIVATED JUNCTION RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- 3 ampere operation at $T_A = 50^\circ\text{C}$ with no thermal runaway
- Typical I_A less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

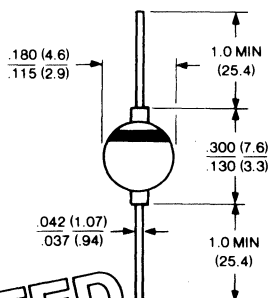
Weight: .04 ounce, 1.1 gram

VOLTAGE RANGE

1400 Volts

CURRENT

3.0 Amperes



PATENTED
Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	CG3	DG3	UNITS
Maximum Recurrent Peak Reverse Voltage	1400	1400	V
Maximum RMS Voltage	980	980	V
Maximum DC Blocking Voltage	1400	1400	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 50^\circ\text{C}$	3.0		A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125		A
Maximum Instantaneous Forward Voltage at 3.0A	1.2		V
Maximum Full Load Reverse Current, Full Cycle Average, .375" (9.5mm) Lead Length $T_A = 70^\circ\text{C}$	200		A
Maximum DC Reverse Current, $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	5.0 100		μA μA
Maximum Reverse Recovery Time (Note 1)	15	20	μs
Typical Junction Capacitance (Note 2)	40		pF
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175		$^\circ\text{C}$

NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 50\text{mA}$.

2. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

RATING AND CHARACTERISTIC CURVES **CG3/DG3 SERIES**

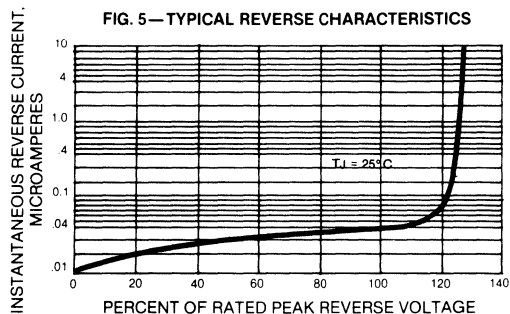
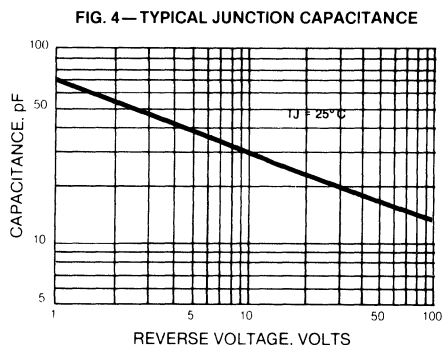
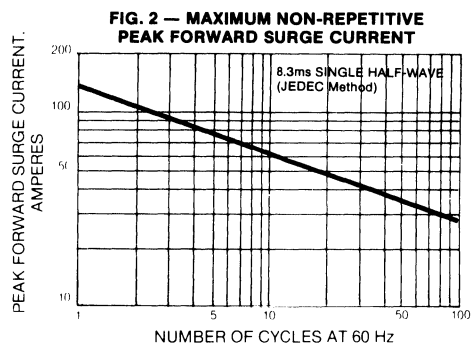
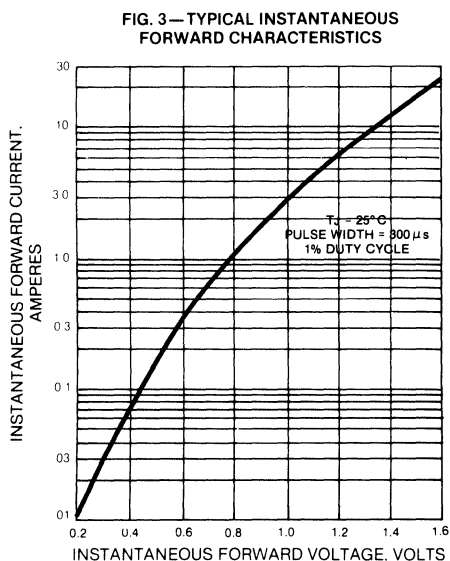
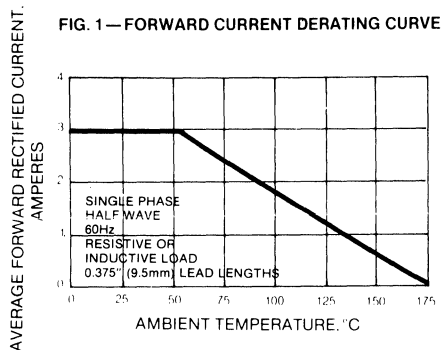
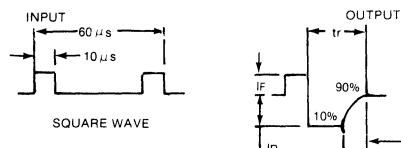
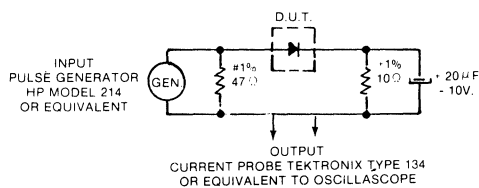


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM



**FAST RECOVERY
GLASS PASSIVATED
RECTIFIERS
1.0 AMPERE TO 3.0 AMPERES
50 VOLTS TO 1000 VOLTS**

1N4942 THRU 1N4948

MINIATURE GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- High temperature metallurgically bonded — no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO-204AP package.
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.5\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length at 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .02 ounce, .56 gram

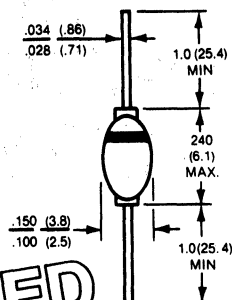
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

1.0 Ampere

DO-204AP



PATENTED
 Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	1N4942	1N4944	1N4946	1N4947	1N4948	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Minimum Avalanche Breakdown Voltage at $50\ \mu\text{A}$	220	440	660	880	1100	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Lengths at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	25.0					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.3					V
* Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 150^\circ\text{C}$	1.0 200					μA μA
* Maximum Reverse Recovery Time (Note 1)	150	150	250	250	500	ns
Typical Junction Capacitance (Note 2)	15					pF
* Operating and Storage Temperature Range T_J , T_{stg}	-65 to +175					$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = .25\text{A}$.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. Available to Jan and Jan TX Military Specifications MIL-S-195000/359.

* JEDEC Registered Values.

RATING AND CHARACTERISTIC CURVES
1N4942 THRU 1N4948 SERIES

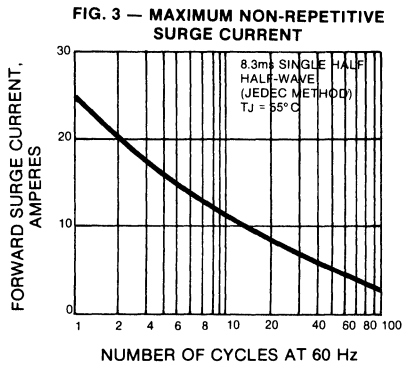
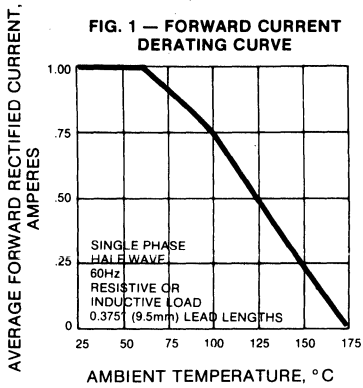


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

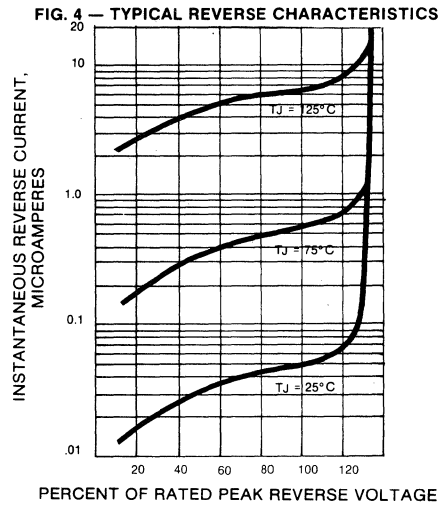
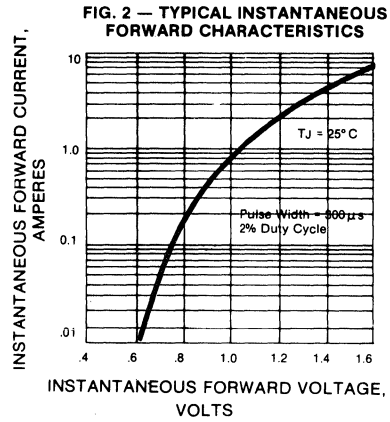
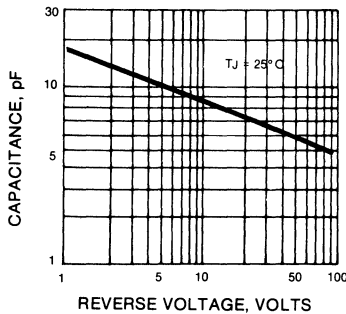
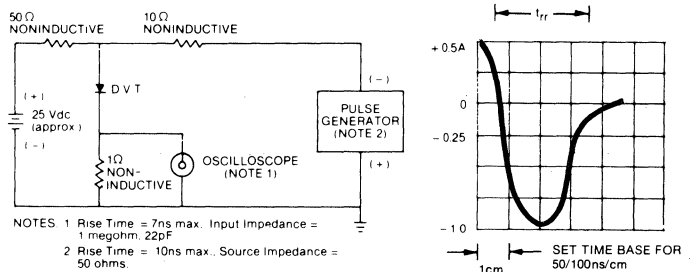


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



1N5615 THRU 1N5623

MINIATURE GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO-204AP package.
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10\text{ sec.}/.375''$, (9.5mm) lead lengths at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .02 ounce, .56 gram

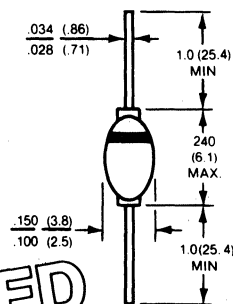
VOLTAGE RANGE

200 to 1000 volts

CURRENT

1.0 Ampere

DO-204AP



PATENTED
 Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,791 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	1N5615	1N5617	1N5619	1N5621	1N5623	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Minimum Avalanche Breakdown Voltage at 50 μA	220	440	660	880	1100	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Lengths at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.2					V
* Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ $T_A = 200^\circ\text{C}$	0.5 25.0 1500					μA μA μA
* Maximum Reverse Recovery Time (Note 1)	150	150	250	300	500	ns
* Maximum Junction Capacitance (Note 2)	45	35	25	20	15	pF
* Operating Temperature Range, T_J	-65 to +175					$^\circ\text{C}$
* Storage Temperature Range, T_{STG}	-65 to +200					$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
 2. Measured at 1 MHz and applied reverse voltage of 12 volts.

3. Available to Jan and Jan TX Military Specifications MIL-S-19500/429.
 * JEDEC Registered Value.

**RATING AND CHARACTERISTIC CURVES
1N5615 THRU 1N5623 SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

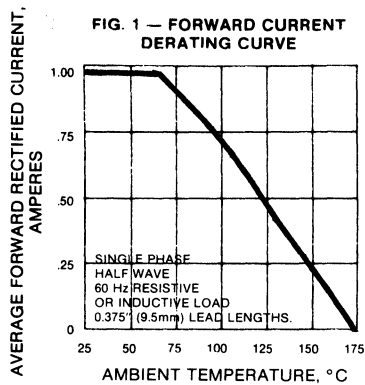


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

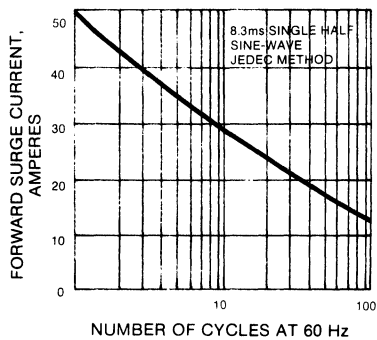


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

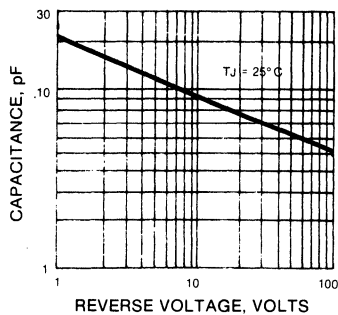


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

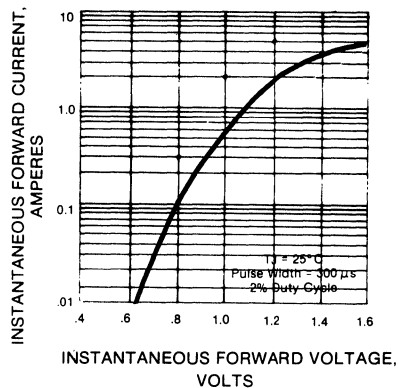


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

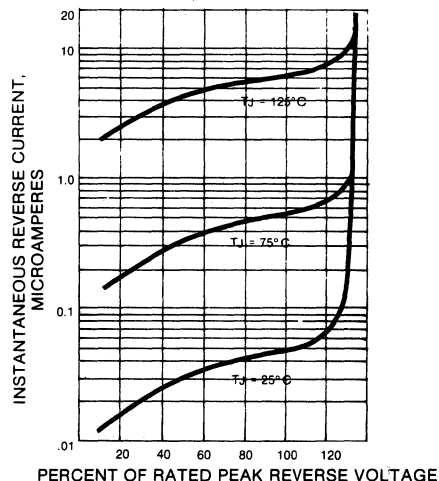
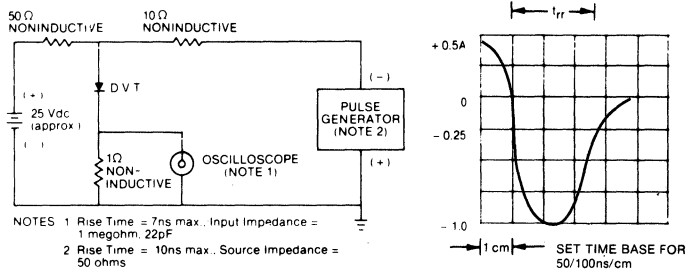


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



RG1 SERIES

MINIATURE GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded — no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in a DO-204AP package
- 1 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Fast switching for high efficiency.
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10\text{ sec-onds}/.375''$ (9.5mm) lead length/5 lbs., (2.3) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: .02 ounce, .56 gram

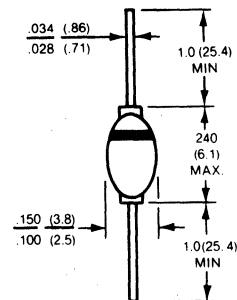
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere

DO-204AP



PATENTED

Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	RG1A	RG1B	RG1D	RG1G	RG1J	RG1K	RG1M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	70	200	400	600	800	1000	V
Maximum Average Forward Rectified Current, .375" (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	1.3							V
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length at $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	1.0 100							μA μA
Maximum DC Reverse Current, at Rated DC Blocking Voltage	2.0							μA
Maximum Reverse Recovery Time (Note 1)	150	150	150	150	200	250	500	ns
Typical Junction Capacitance (Note 2)	10							pF
Operating and Storage Temperature Range, T_J , T_{STG}	-65 to +175							$^\circ\text{C}$

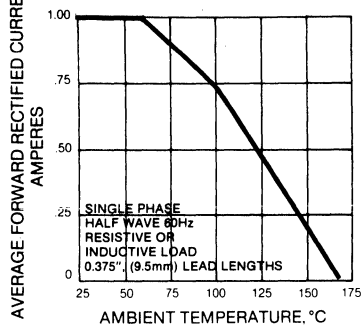
NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0VDC.

RATING AND CHARACTERISTIC CURVES RG1 SERIES

**FIG. 1 — FORWARD CURRENT
DERATING CURVE**



**FIG. 3 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**

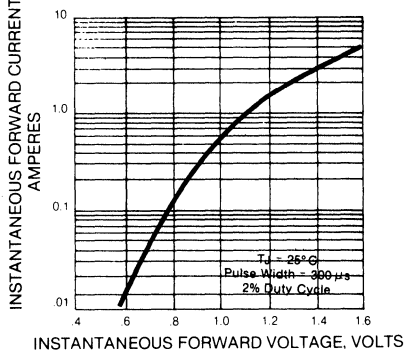


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

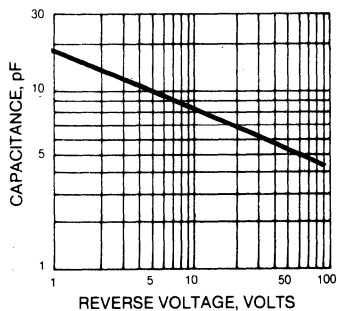


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

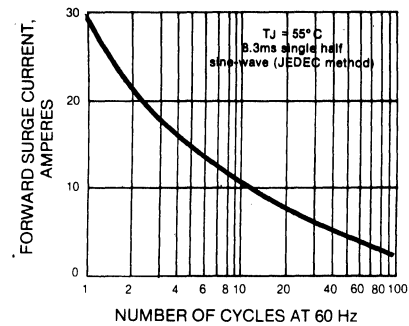


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

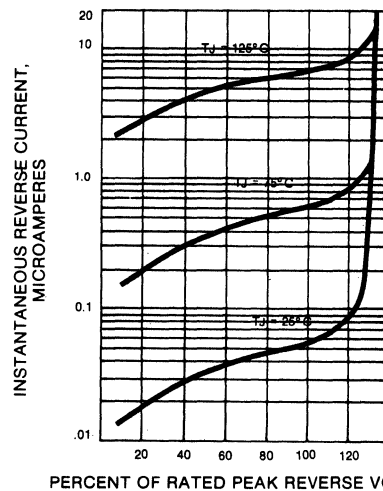
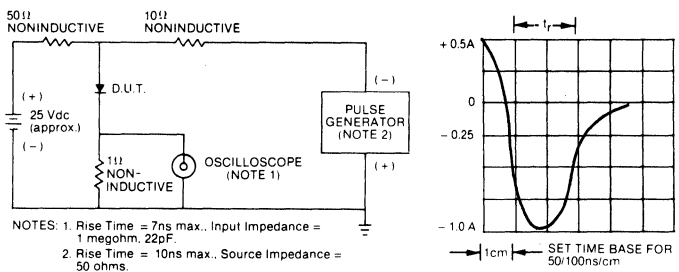


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



RG2 SERIES

MINIATURE GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in a DO-204AP package
- 2.0 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: .02 ounce .56 gram

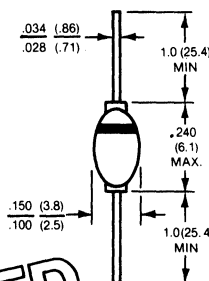
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

2.0 Amperes

DO-204AP



Dimensions in inches and (millimeters)

PATENTED
Brazed-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	RG2A	RG2B	RG2D	RG2G	RG2J	RG2K	RG2M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	2.0							A
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	50							A
Maximum Instantaneous Forward Voltage at 2.0A	1.3							V
Maximum Full Load Reverse Current, Full Cycle Average, .375", (9.5mm) Lead Length at $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	1.0 100							μA μA
Maximum DC Reverse Current, at Rated DC Blocking Voltage	5.0							μA
Maximum Reverse Recovery Time (Note 1)	150	150	150	150	200	250	500	ns
Typical Junction Capacitance (Note 2)	20							pF
Operating and Storage Temperature Range T_J, T_{STG}	- 65 to + 175							$^\circ\text{C}$

NOTES:

1—Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$

2—Measured at 1.0 MHz and applied reverse voltage of $4.0 V_{DC}$

RATING AND CHARACTERISTIC CURVES **RG2 SERIES**

FIG. 1—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

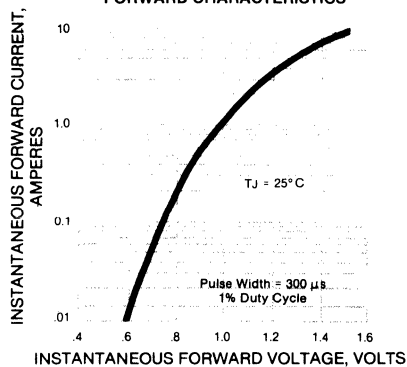


FIG. 2—FORWARD CURRENT DERATING CURVE

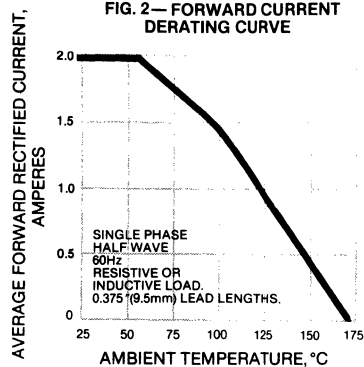


FIG. 3—TYPICAL JUNCTION CAPACITANCE

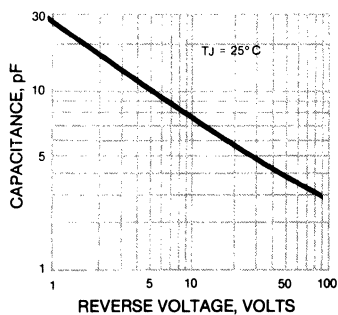


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

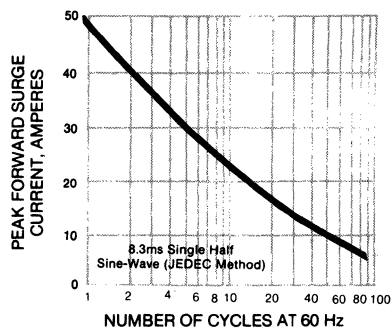
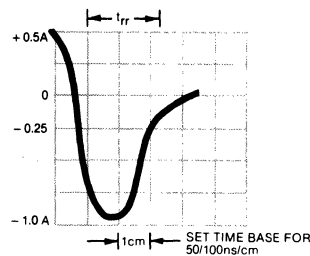
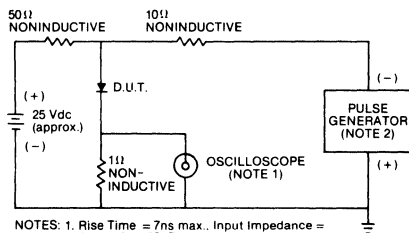


FIG. 5—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



- NOTES: 1. Rise Time = 7ns max., Input Impedance = 1 megohm, 22pF.
2. Rise Time = 10ns max., Source Impedance = 50 ohms.

1N5415 THRU 1N5420

FAST SWITCHING GLASS PASSIVATED SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Glass passivated junction
- High temperature metallurgically bonded — no compression contacts as found in many competitive devices
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- 3.0 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

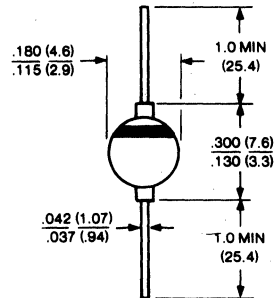
Case: One piece glass hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .037 ounce, 1.04 grams

VOLTAGE RANGE

50 to 600 Volts

CURRENT

3.0 Amperes



PATENTED
 Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	1N5415	1N5416	1N5417	1N5418	1N5419	1N5420	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	500	600	V
Maximum RMS Voltage	35	70	140	280	350	420	V
* Maximum DC Blocking Voltage	50	70	200	400	500	600	V
* Minimum Reverse Breakdown Voltage at $50\ \mu\text{A}$	55	110	220	440	550	660	V
* Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	3.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	80						A
Maximum Instantaneous Forward Voltage at 3.0A*	1.1						V
9.0A	1.5						
Maximum DC Reverse Current at Rated DC Blocking Voltage	1.0						μA
$T_A = 25^\circ\text{C}$	20						μA
$T_A = 100^\circ\text{C}$							
Maximum Junction Capacitance (Note 1)	550	430	250	165	140	120	pF
* Maximum Reverse Recovery Time (Note 2)	150	150	150	150	250	400	ns
Operating Temperature Range T_J	-65 to +175						$^\circ\text{C}$
* Storage Temperature Range T_{STG}	-65 to +175						$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = .25\text{A}$.

3. Available to JAN and JANTX Military Specifications MIL-S-19500/411.
- * JEDEC Registered Values

RATING AND CHARACTERISTIC CURVES
1N5415 THRU 1N5420

FIG. 1 — FORWARD CURRENT DERATING CURVE

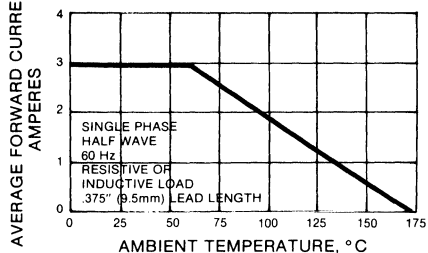


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

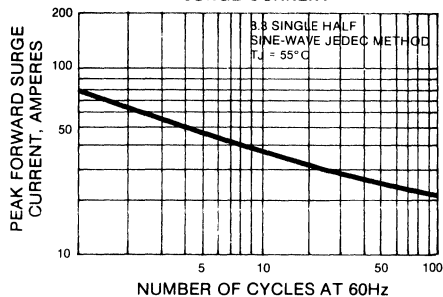


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

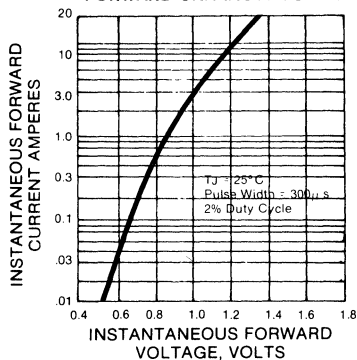


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

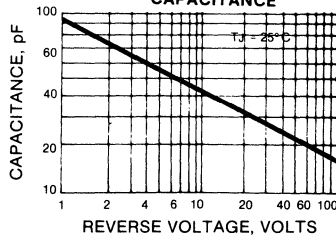


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

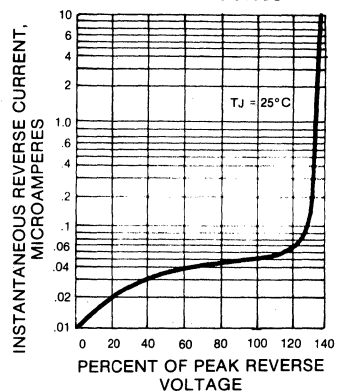
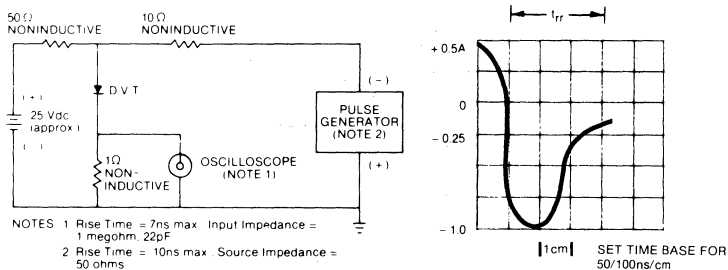


FIG. 6 — TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



RG3 SERIES

FAST SWITCHING GLASS PASSIVATED SILICON RECTIFIER

GENERAL
INSTRUMENT



FEATURES

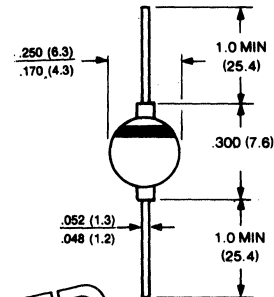
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- 3 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_n less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed $350^\circ\text{C}/10$ seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: One piece glass, hermetically sealed
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: .04 ounce, 1.1 gram

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
3.0 Amperes



PATENTED
Braze-lead assembly is covered by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RG3A	RG3B	RG3D	RG3G	RG3J	RG3K	RG3M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	100							A
Maximum Instantaneous Forward Voltage at 3.0A	1.3							V
Maximum Average Reverse Current at $T_A = 25^\circ\text{C}$	2.0							μA
Rated Peak Reverse Voltage $T_A = 100^\circ\text{C}$	100							μA
Maximum DC Reverse Current, at Rated DC Blocking Voltage $T_J = 25^\circ\text{C}$	5.0							μA
Maximum Reverse Recovery Time (Note 1)	150				250	400	500	ns
Typical Junction Capacitance (Note 2)	40							pF
Operating and Storage Temperature Range T_J, T_{stg}	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

**RATING AND CHARACTERISTIC CURVES
RG3 SERIES**

FIG. 1 — FORWARD RECTIFIED CURRENT DERATING CURVE

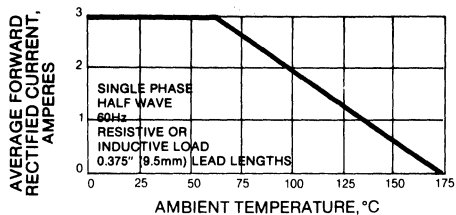


FIG. 3 — TYPICAL JUNCTION CAPACITANCE

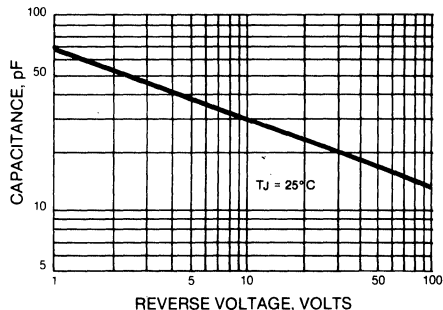


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS

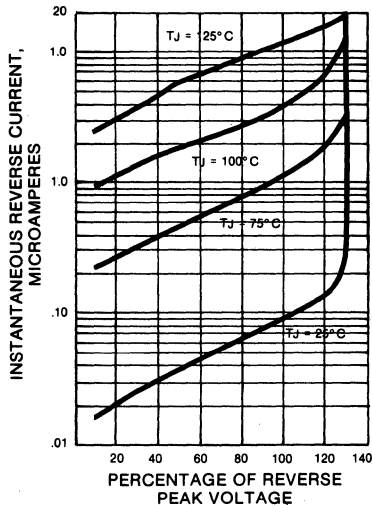


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

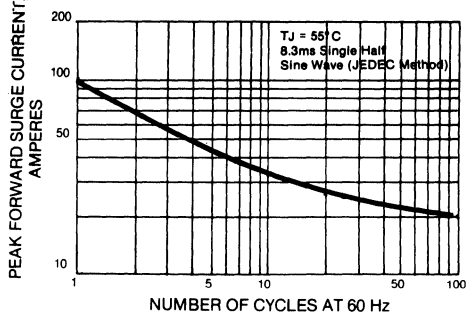


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

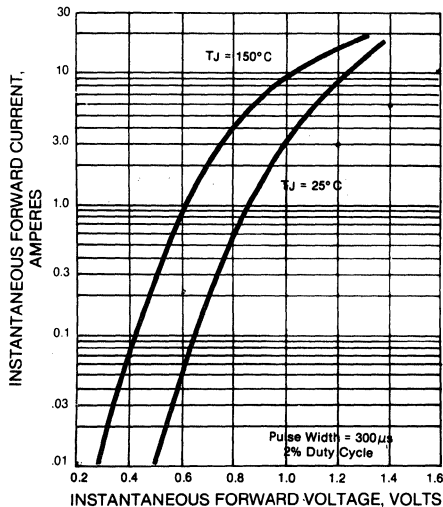
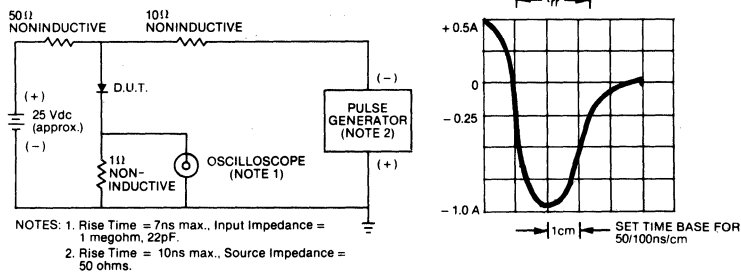


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



RG4 SERIES

GLASS PASSIVATED SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in many competitive devices
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- 3.0 ampere operation at $T_A = 50^\circ\text{C}$ with no thermal runaway
- Glass composition is covered by Patent No. 3,752,701-1971
- High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension
- Typical I_R less than $1\ \mu\text{A}$

MECHANICAL DATA

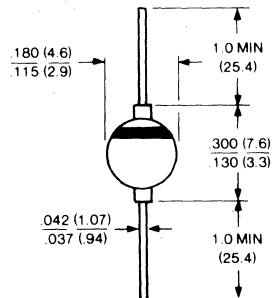
Case: One piece glass, hermetically sealed
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color band denotes cathode
 Mounting Position: Any
 Weight: .037 ounce, 1.04 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes



Dimensions in inches and (millimeters)

PATENTED
 Braze-lead assembly is covered by Patent No. 3,990,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	RG4	RG4B	RG4D	RG4G	RG4J	RG4K	RG4M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 50^\circ\text{C}$	3.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	100							A
Maximum Instantaneous Forward Voltage at 3.0A	1.3							V
Maximum Reverse Current, at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$	5.0							μA
Maximum Average Reverse Current at Peak Reverse Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	2.0 100							μA
Typical Junction Capacitance (Note 1)	50							pF
Maximum Reverse Recovery Time (Note 2)	150	150	150	150	250	500	500	ns
Storage and Operating Temperature Range T_{STG}, T_J	-65 to +175							$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES **RG4 SERIES**

Fig. 1—FORWARD CURRENT DERATING CURVE

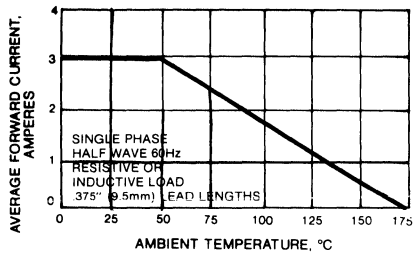


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

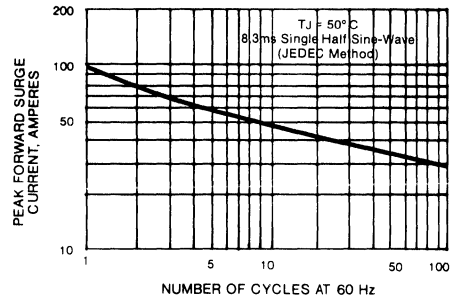


Fig. 3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

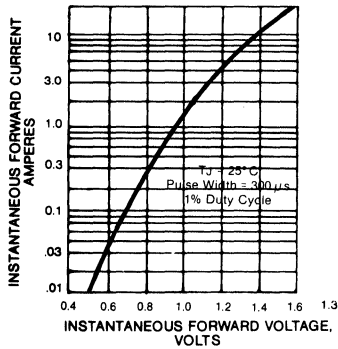


Fig. 4—TYPICAL JUNCTION CAPACITANCE

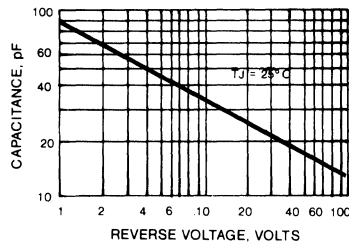


Fig. 5—TYPICAL REVERSE CHARACTERISTICS

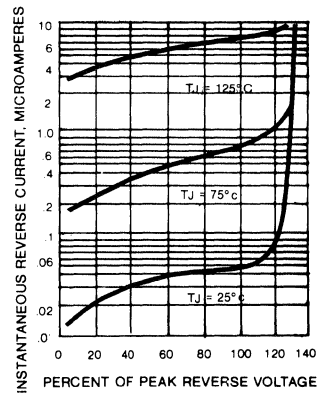
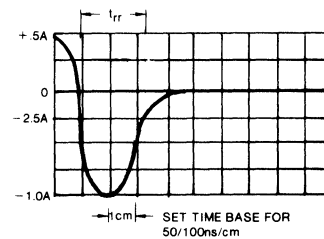
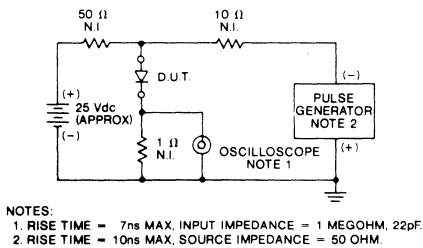


Fig. 6—TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



**PLASTIC
RECTIFIERS
1.0 AMPERE TO 6.0 AMPERES**

Principle of Construction

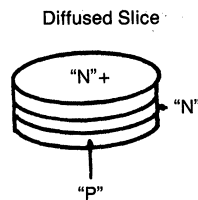
General Instrument has produced successfully for many years Plastic Rectifiers. The key factor of our Plastic Rectifiers is the use of the cell concept.

The small size allows many cells to be processed simultaneously in batch form.

This method ensures accurate pretesting of the cells before final assembly, and allows General Instrument to produce high volume of Rectifiers economically.

The cell construction consists of the following steps:

1 — Diffusing a PN junction into a slice of silicon.



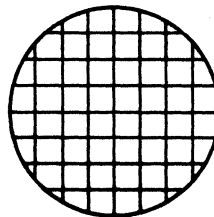
2 — Metallizing the slice of silicon.

Metallized Slice

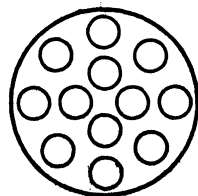


3 — Scribing and breaking the slice into individual dies, for the 1.0 Ampere devices or sandblasting for the 6.0 thru 25.0 Ampere devices.

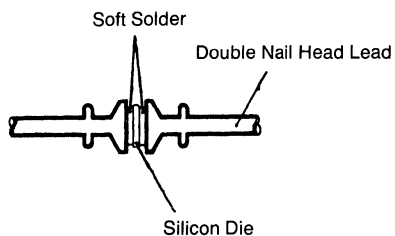
Scribed Wafer



Sandblasted Round Dice



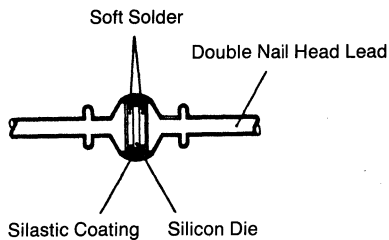
4—Soldering the die between two Double Nail Head Leads.



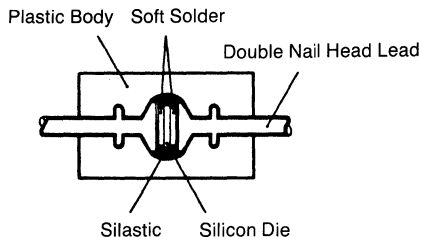
Soldering die between Double Nail Head Lead

5—Cleaning the assembly by chemical etching, washing and drying.

6—Passivating the finished rectifier with silastic.



7—Overmolding by General Instrument proprietary 4B flame retardant molding compound.



8—Lead tinning, electrical testing marking and packing.

Double Nail Head Plastic Rectifier

Miniature Plastic Silicon Rectifiers 1.0 to 1.5 AMPERES

Types: 1N4001 thru 1N4007
M100A thru M100M
1N5391 thru 1N5399

Features:

- Low Cost
- Diffused Junction
- Low Leakage
- High Current Capability
- Easily Cleaned with Freon, Alcohol, Chlorothene and similar Solvents
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208
- Case: Jedec DO 41
- High Temperature Soldering Guaranteed 300°C/10 Seconds/.375" 10mm Lead Length at 2.25 kg Tension

Plastic Power Rectifiers 3.0 to 6.0 AMPERES

Types: 1N5400 thru 1N5408
P300A thru P300M
GI500 thru GI510
GI750 thru GI758
P600A thru P606M

Features:

- High Surge Current Capability
- Void-Free Plastic Packages
- High Current Operation
- Typical I_{R} less than 1 μA
- Exceeds Environmental Standards of MIL-STD-19500
- High Temperature Soldering Guaranteed 300°C/.375" 10 Seconds/10mm Lead Length at 2.25 kg Tension
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

High Current Silicon Rectifiers 8.0 to 30 AMPERES

Types: NS8AT thru NS8MT NP30AM thru NP30MM
NP16AT thru 16MT
AR25A thru AR25M
ARS25A thru ARS25M

Features:

- High Surge Capability
- High Current Capability
- Low Forward Voltage
- Low Leakage

Fast Recovery Plastic Silicon Rectifiers 1.0 to 30 AMPERES

Types: 1N4933 thru 1N4937 GI820 thru GI826
SRP100A thru SRP100K SRP600A thru SRP600K
GI910 thru GI918 RS8AT thru RS8MT
GI850 thru GI856 RP16AT thru RP16KT
SRP300A thru SRP300K RP30AM thru RP30MM

Features:

- High Surge Current Capability
- Void-Free Plastic Packages
- High Current Operation
- Typical I_{R} less than 1 μA
- Exceeds Environmental Standards of MIL-STD-19500
- High Temperature Soldering Guaranteed 300°C/10 Seconds/.375" 10mm Lead Length at 2.25 kg Tension
- Controlled Soft Recovery Guarantees low RFI and high Efficiency Switching Characteristics of SRP100A thru SRP100K, SRP300A thru SRP300K and SRP600A thru SRP600K
- Tin Plated Axial Leads, Solderable per MIL-STD-202/208

TYPE	1N4001 thru 1N4007	M100A thru M100M	1N4933* thru 1N4937	SRP100A* thru SRP100K	1N5391 thru 1N5399	1N5400 thru 1N5408	P300A thru P300M	GI500 thru GI510	GI910* thru GI918	GI850* thru GI856*	SRP300A* thru SRP300K	TYPE
CASE	DO41	DO41	DO41	DO41	DO41	DO201AD	DO201AD	DO201AD	DO201AD	DO201AD	DO201AD	CASE
I _o (A)	1.0	1.0	1.0	1.0	1.5	3.0	3.0	3.0	3.0	3.0	3.0	I _o (A)
@ T _A (°C)	75	100	75	55	75 at T _L	105	105	95	90	90	55	@ T _A (°C)
V _R = 50 (V)	1N4001	M100A	1N4933	SRP100A	1N5391	1N5400	P300A	GI500	GI910	GI850	SRP300A	V _R = 50 (V)
V _R = 100 (V)	1N4002	M100B	1N4934	SRP100B	1N5392	1N5401	P300B	GI501	GI911	GI851	SRP300B	V _R = 100 (V)
V _R = 200 (V)	1N4003	M100D	1N4935	SRP100D	1N5393	1N5402	P300D	GI502	GI912	GI852	SRP300D	V _R = 200 (V)
V _R = 300 (V)					1N5394	1N5403						V _R = 300 (V)
V _R = 400 (V)	1N4004	M100G	1N4936	SRP100G	1N5395	1N5404	P300G	GI504	GI914	GI854	SRP300G	V _R = 400 (V)
V _R = 500 (V)					1N5396	1N5405					1/8 = 500 (V)	V _R = 500 (V)
V _R = 600 (V)	1N4005	M100J	1N4937	SRP100J	1N5397	1N5406	P300J	GI506	GI916	GI856	SRP300J	V _R = 600 (V)
V _R = 800 (V)	1N4006	M100K		SRP100K	1N5398	1N5407	P300K	GI508	GI917		SRP300K	V _R = 800 (V)
V _R = 1000 (V)	1N4007	M100M			1N5399	1N5408	P300M	GI510	GI918			V _R = 1000 (V)
V _R > 1000 (V)												V _R > 1000 (V)
SURGE (A)	30	50	30	30	50	200	200	100	100	100	150	SURGE (A)
V _F (V)	1.1	1.0/1.1	1.2	1.3	1.4	1.2	1.1	1.1	1.25	1.25	1.3	V _F (V)
Page	262	264	290	292	266	268	272	270	294	296	298	Page

*Fast Recovery

TYPE	GI750 thru GI758	P600A thru P600M	GI820* thru GI826*	SRP600A thru SRP600K	NS8AT thru NS8MT	RS8AT* thru RS8KT*	NP16AT thru NP16KT	RP16AT* thru RP16KT	AR25A thru AR25M	NP30AM thru NP30MM	RP30AM* thru RP30MM*	TYPE
CASE	P600	P600	P600	P600	TO220	TO220	TO220CT	TO220CT	AR25	TO3	TO3	CASE
I _o (A)	6.0	6.0	5.0	6.0	8.0	8.0	16	16	25	30	30	I _o (A)
@ T _A (°C)	60	60	55	55	100T _c	100T _c	100T _c	100T _c	150T _c	100T _c	100T _c	@ T _A (°C)
V _R = 50 (V)	GI750	P600A	GI820	SRP600A	NS8AT	RS8AT	NP16AT	RP16AT	AR25A	NP30AM	RP30AM	V _R = 50 (V)
V _R = 100 (V)	GI751	P600B	GI821	SRP600B	NS8BT	RS8BT		RP16BT	AR25B	NP30BM	RP30BM	V _R = 100 (V)
V _R = 200 (V)	GI752	P600D	GI822	SRP600D	NS8DT	RS8DT	NP16BT	RP16DT	AR25D	NP30DM	RP30DM	V _R = 200 (V)
V _R = 400 (V)	GI754	P600G	GI824	SRP600G	NS8GT	RS8GT	NP16GT	RP16GT	AR25G	NP30GM	RP30GM	V _R = 400 (V)
V _R = 600 (V)	GI756	P600J	GI826	SRP600J	NS8JT	RS8JT	NP16JT	RP16JT	AR25J	NP30JM	RP30JM	V _R = 600 (V)
V _R = 800 (V)	GI758	P600K		SRP600K	NS8KT	RS8KT	NP16KT	RP16KT	AR25K	NP30KM	RP30KM	V _R = 800 (V)
V _R = 1000 (V)		P600M			NS8MT		NP16MT		AR25M	NP30MM	RP30MM	V _R = 1000 (V)
V _R > 1000 (V)												V _R > 1000 (V)
SURGE (A)	400	400	300	300	175	150	300	400	400	300	200	SURGE (A)
V _F (V)	.9/.95	.9/1.0	1.0	1.3	1.1	1.3	1.1	1.2/1.3	1.0	1.1	1.3/1.4	V _F (V)
Page	274	276	300	302	280	306	282	308	284	286	310	Page

*Fast Recovery

1N4001 THRU 1N4007

MINIATURE PLASTIC SILICON RECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0.
- Low cost
- Diffused junction
- Low leakage
- High current capability
- Easily cleaned with Freon, alcohol, Chloroethene and similar solvents
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed 300°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-41, molded case
Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode end
Weight: 0.012 ounce, 0.3 gram
Mounting Position: Any
Handling precautions: None

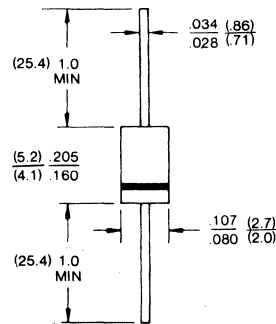
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere

DO-41



All dimensions inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
* Maximum RMS Voltage	35	70	140	280	420	560	700	V
* Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
* Maximum Average Forward Rectified Current .375", (4.5mm) lead lengths at T _A = 75°C	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
* Maximum Instantaneous Forward Voltage at 1.0A	1.1							V
* Maximum Full Load Reverse Current Full Cycle Average .375", (9.5mm) lead lengths at T _L = 75°C	30							μA
Maximum DC Reverse Current T _A = 25°C at Rated DC Blocking Voltage T _A = 100°C	5.0 50.0							μA μA
Typical Reverse Recovery Time (Note 1)	30							μs
Typical Junction Capacitance (Note 2)	30							pF
Typical Thermal Resistance ΘJA (Note 3)	50							°C/W
* Operating and Storage Temperature Range, T _J , T _{STG}	-65 to +175							°C

NOTES:

1-Measured on Tektronix Type "S" recovery plug-in, Tektronix 545 Scope or equivalent, IFM = 20mA, IRM = 1mA.
2-Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.

3-Thermal Resistance from Junction to Ambient .375", (9.5mm) lead lengths.
* JEDEC Registered Value.

FIG. 1 — FORWARD CURRENT
DERATING CURVE

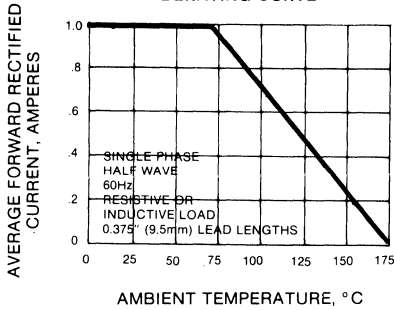


FIG. 2 — TYPICAL FORWARD CHARACTERISTICS

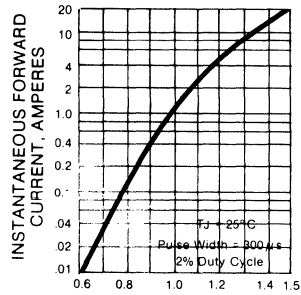


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

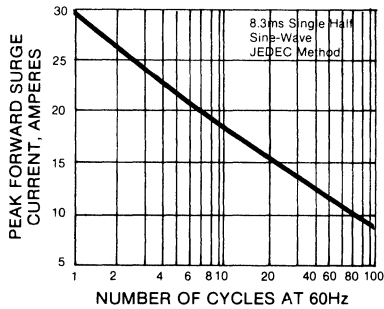


FIG. 4 — PEAK FORWARD SURGE CURRENT

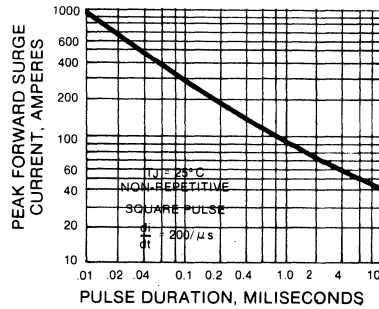


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

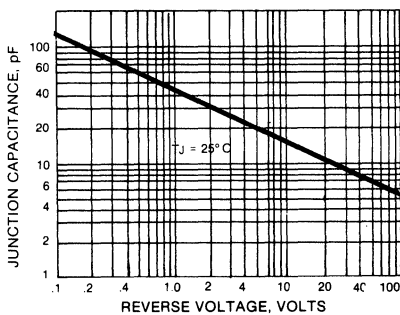
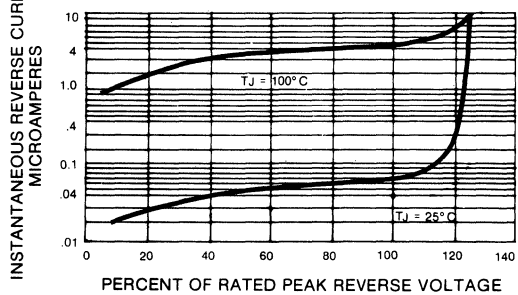


FIG. 6 — TYPICAL REVERSE CHARACTERISTICS



M100 SERIES

MINIATURE PLASTIC SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES:

- Low cost
- Diffused junction
- High surge current capability
- Plastic material carries U/L recognition 94V-0. It is General Instrument's proprietary 4B Flame-retardant epoxy molding compound.
- Typical I_a less than $0.5\mu A$
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $350^\circ C/10$ seconds/.375", 9.5mm lead length/5 lbs, 11 kg tension.

MECHANICAL DATA:

Case: JEDEC DO-41, molded case
 Terminals: Plated axial leads, solderable per MIL-STD 202, Method 208
 Polarity: Color band denotes cathode end
 Weight: 0.012 ounce, 0.3 gram
 Mounting position: Any

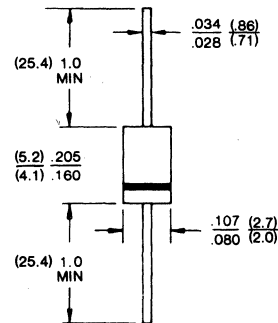
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

At $T_A = 25^\circ C$ unless otherwise specified. Single phase, half-wave, 60 Hz, resistive or inductive load.

	M100A	M100B	M100D	M100G	M100J	M100K	M100M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length at $T_A = 100^\circ C$	1.0							A
Maximum Overload Surge Current 1 Cycle	50							A
Maximum Forward Voltage at 1.0Adc	1.0						1.1	V
Maximum Full Load Reverse Current Full Cycle Average .375" (9.5mm) Lead Length at $T_A = 100^\circ C$	100							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage	1.0							μA
Typical Reverse Recovery Time (Note 1)	20							μS
Typical Junction Capacitance (Note 2)	25							pF
Operating and Storage Temperature Range T_A	-65 to +175							$^\circ C$

NOTES:

1. Measured on Tektronix Type "S" recovery plug-in Tektronix 545 Scope (or equiv). $I_{FM} = 20mA$, $I_{RM} = 1.0mA$
2. Measured at 1MHZ and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES **M100 SERIES**

Fig. 1 — TYPICAL FORWARD CHARACTERISTICS

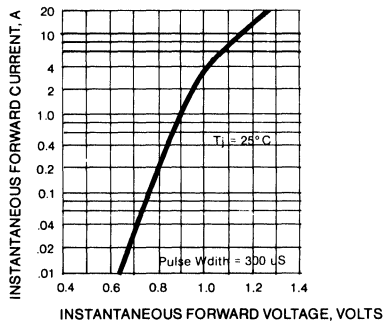


Fig. 2 — TYPICAL JUNCTION CAPACITANCE

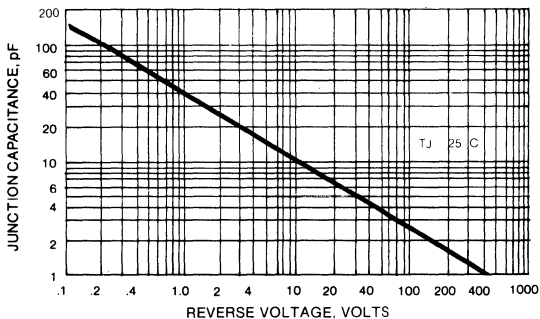


Fig. 3 — MAXIMUM OVERLOAD SURGE — CURRENT

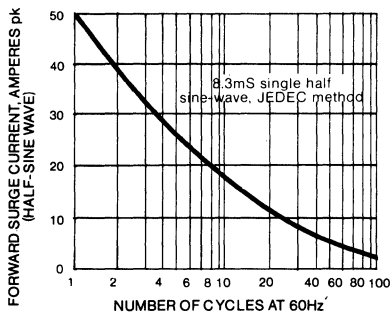


Fig. 4 — PEAK FORWARD SURGE CURRENT

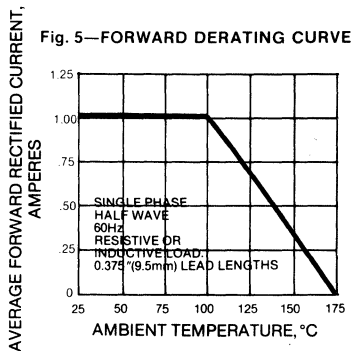
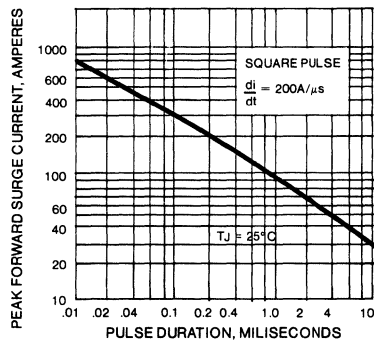


Fig. 5 — FORWARD DERATING CURVE

1N5391 THRU 1N5399

MINIATURE PLASTIC SILICON RECTIFIERS

**GENERAL
INSTRUMENT**

FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Exceeds environmental standards of MIL-STD-19500
- 1.5 ampere operation at $T_L = 70^\circ\text{C}$ with no thermal runaway.
- Typical I_R less than $1\mu\text{A}$.
- Void-free Molded plastic
- High temperature soldering guaranteed: $300^\circ\text{C}/10$ seconds/.375", (9.5mm) lead length/5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting position: Any

Weight: 0.015 ounces, 0.4 grams

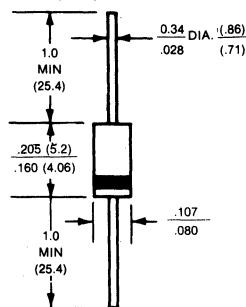
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.5 Amperes

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

	1N5391	1N5392	1N5393	1N5394	1N5395	1N5396	1N5397	1N5398	1N5399	
*Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	500	600	800	1000	V
*Maximum RMS Voltage	35	70	140	210	280	350	420	560	700	V
*Maximum DC Blocking Voltage	50	100	200	300	400	500	600	800	1000	V
*Maximum Average Forward Rectified Current .386", 9.5mm Lead Length at $T_L = 70^\circ\text{C}$	1.5									A
*Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50									A
*Maximum Instantaneous Forward Voltage at 1.5A, $T_A = 70^\circ\text{C}$	1.4									V
*Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 150^\circ\text{C}$	5.0 300									μA μA
*Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) Lead Length at $T_A = 70^\circ\text{C}$	300									μA
Typical Junction Capacitance (Note 1)	18									pF
Typical Reverse Recovery Time (Note 2)	2.0									μs
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +175									$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

2. Measured with $I_F = .5\text{A}$, $I_R = .1\text{A}$, $t_{rr} = .25\mu\text{s}$.

* JEDEC Registered Value.

RATING AND CHARACTERISTIC CURVES
1N5391 THRU 1N5399

FIG. 1 — FORWARD CURRENT DERATING CURVE

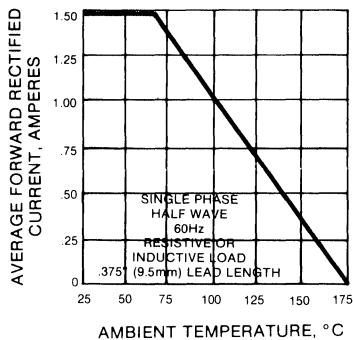


FIG. 3 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

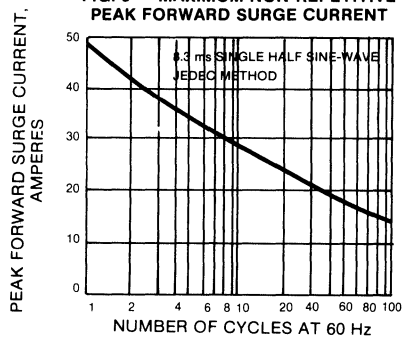


FIG. 2 — TYPICAL FORWARD CHARACTERISTICS

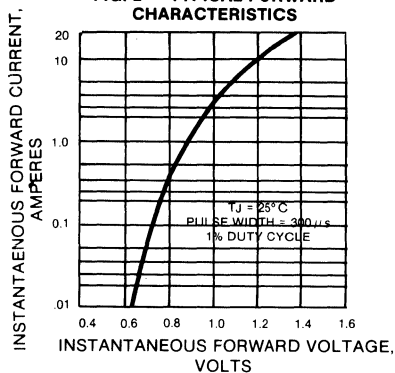


Fig. 4—TYPICAL JUNCTION CAPACITANCE

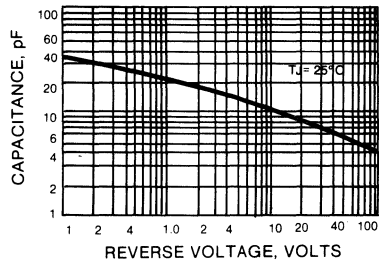
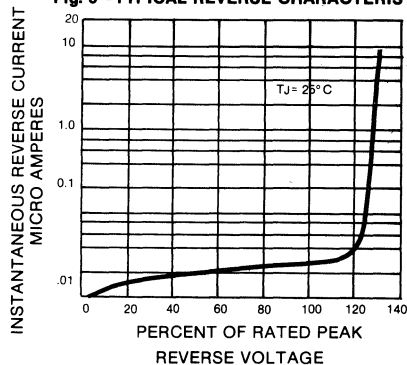


Fig. 5—TYPICAL REVERSE CHARACTERISTICS



1N5400 THRU 1N5408

PLASTIC SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High surge capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Void-free plastic in DO-201AD package
- 3.0 ampere operation at $T_A = 105^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $1\ \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $300^\circ\text{C}/10$ seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Band denotes cathode
Mounting Position: Any
Weight: 0.04 ounce, 1.1 grams

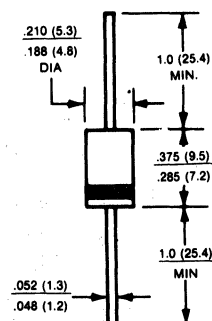
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N5400	1N5401	1N5402	1N5403	1N5404	1N5405	1N5406	1N5407	1N5408	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	500	600	700	800	V
Maximum RMS Voltage	35	70	140	210	280	350	420	560	700	V
* Maximum DC Blocking Voltage to $T_A = 150^\circ\text{C}$	50	100	200	300	400	500	600	800	1000	V
* Maximum Average Forward Rectified Current, .5" (12.5mm) Lead Length at $T_A = 105^\circ\text{C}$	3.0									A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200									A
* Maximum Instantaneous Forward Voltage at 3.0A	1.2									V
* Maximum Reverse Current, $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 150^\circ\text{C}$	10 500									μA μA
* Maximum Full Load Reverse Current, Full Cycle Average, .5" (12.5mm) Lead Length $T_A = 105^\circ\text{C}$	500									μA
Typical Junction Capacitance (Note 1)	50									pF
* Storage Temperature Range T_{STG}	-65 to +175									$^\circ\text{C}$
* Operating Temperature Range T_J	-65 to +170									$^\circ\text{C}$

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 volts.

* JEDEC Registered Value.

**RATING AND CHARACTERISTIC
1N5400 THRU 1N5408**

FIG. 1 — FORWARD CURRENT DERATING CURVE

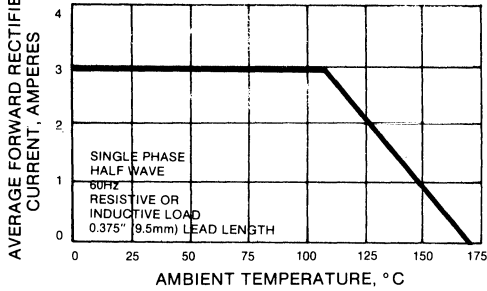


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

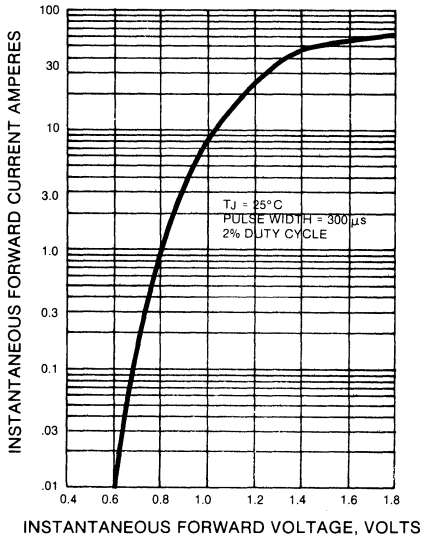


FIG. 2 — PEAK FORWARD SURGE CURRENT

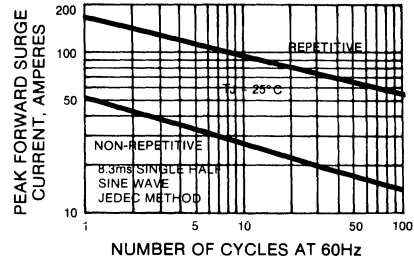


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

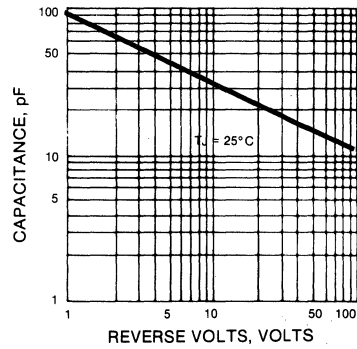
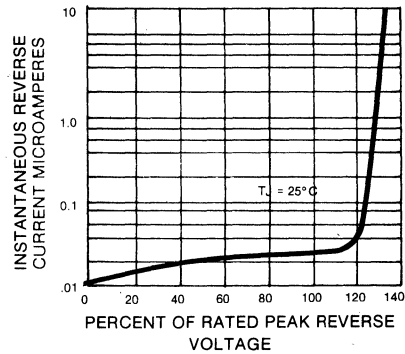


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



GI500 SERIES

PLASTIC POWER RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High surge current capability
- Plastic material carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Void-free DO-201AD Package
- High current operation 3 Amperes at $T_A = 95^\circ\text{C}$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $300^\circ\text{C}/10$ seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

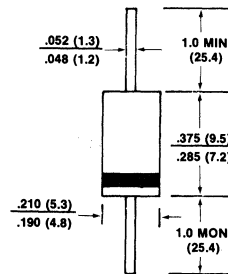
MECHANICAL DATA

Case: Molded plastic
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Band denotes cathode
 Mounting Position: Any
 Weight: .044 ounce, 1.25 grams

VOLTAGE RANGE
 50 to 1000 Volts

CURRENT
 3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	GI500	GI501	GI502	GI503	GI506	GI508	GI510	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length at $T_A = 95^\circ\text{C}$	3.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	100							A
Maximum Instantaneous Forward Voltage, $T_J = 25^\circ\text{C}$ at 9.4A $T_J = 175^\circ\text{C}$	1.1 1.0							V
Maximum Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	5.0 25.0							μA
Typical Junction Capacitance (Note 2)	28							pF
Typical Reverse Recovery Time $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$	2.5							μs
Maximum Thermal Resistance, Junction to Ambient (Note 1)	28							$^\circ\text{C/W}$
Storage and Operating Temperature Range T_A	-65 to $+175$							$^\circ\text{C}$

NOTES:
 1. Typical Printed Circuit Board Mounting, .375" (9.5mm) Lead Lengths.
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES
GI500 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

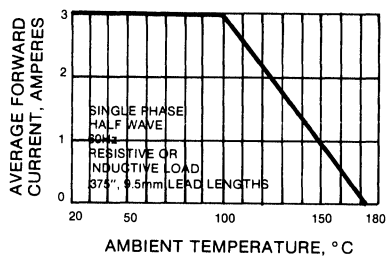


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

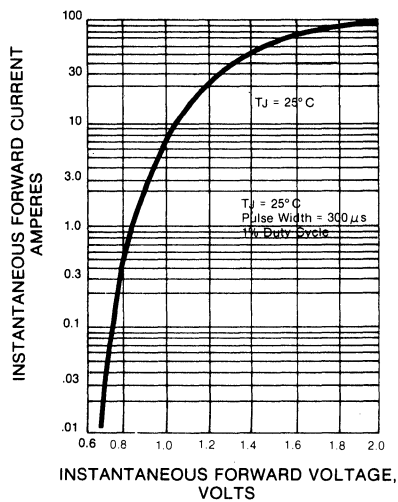


FIG. 2 — MAXIMUM PEAK FORWARD SURGE CURRENT

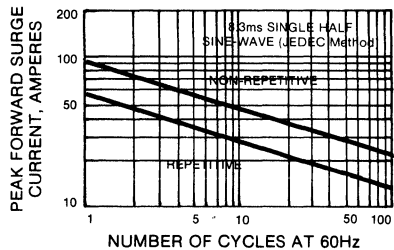


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

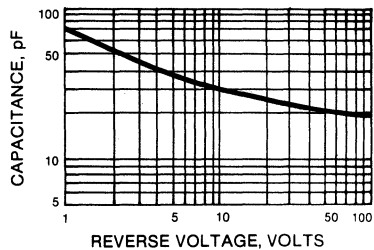
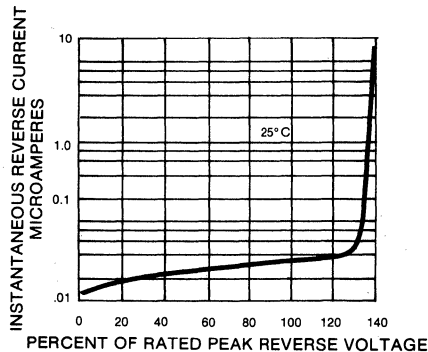


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



P300 SERIES

GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification
- Typical I_R less than $1 \mu A$
- Void-free plastic in a DO-201AD package
- 3.0 ampere operation at $T_A = 100^\circ C$ with no thermal runaway
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $300^\circ C/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

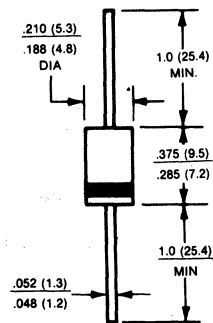
MECHANICAL DATA

Case: Molded plastic
 Terminals: Axial leads, solderable per
 MIL-STD-202, Method 208
 Polarity: Band denotes cathode
 Mounting Position: Any
 Weight: 0.04 ounce, 1.1 grams

VOLTAGE RANGE
 50 to 1000 Volts

CURRENT
 3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	P300A	P300B	P300D	P300G	P300J	P300K	P300M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	70	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 100^\circ C$	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200							A
Maximum Instantaneous Forward Voltage at 3.0A	1.2							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ C$ $T_A = 100^\circ C$	5.0 25.0							μA
Typical Junction Capacitance (Note 1)	50							pF
Typical Reverse Recovery Time (Note 2)	5.0							μs
Storage and Operating Temperature Range T_J, T_{STG}	-65 to +175							$^\circ C$

NOTES:
 1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts.
 2. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = .25A$.

**RATING AND CHARACTERISTIC CURVES
P300 SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

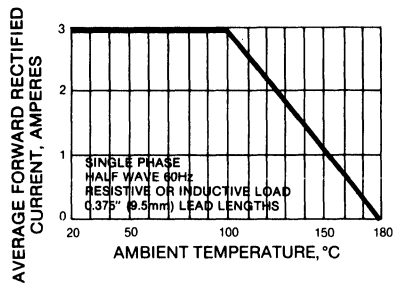


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

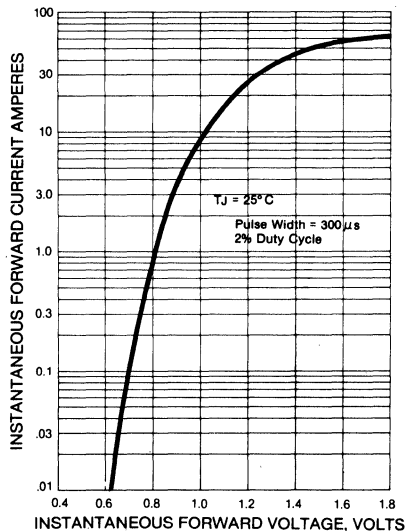


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

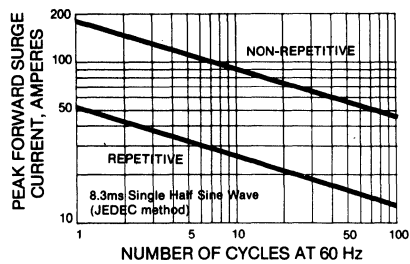


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

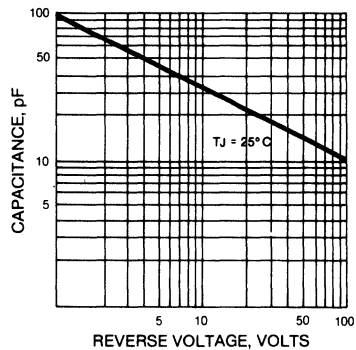
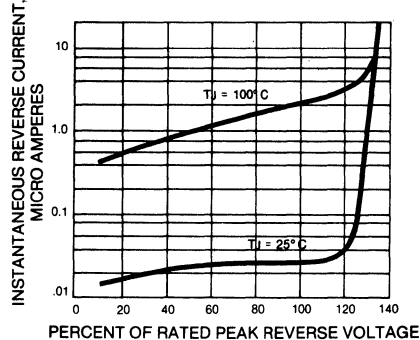


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



GI750 SERIES

HIGH CURRENT PLASTIC SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- The plastic material has Underwriters Laboratory Flammability Classification 94V-0
- High Current Lead Mounted
- Diffused Junction
- Completely Insulated Case
- Uniform Molded Body
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 350° C/10 seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

MECHANICAL DATA

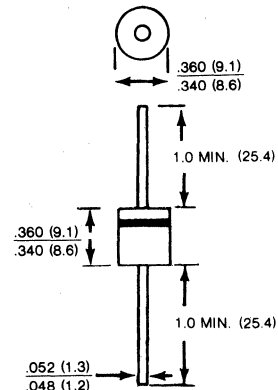
Case: Molded plastic
Terminals: Axial leads solderable per MIL-STD-202, Method 208
Polarity: Band Denotes Cathode
Mounting Position: Any
Weight: 0.07 ounce, 2.1 grams

VOLTAGE RANGE

50 to 800 Volts

CURRENT

6.0 Amperes



Dimensions in inches (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI750	GI751	GI752	GI754	GI756	GI758	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current at T _A = 60°C P.C. Board Mounting; T _L = 60°C .125", 3.18mm lead lengths	6.0 22						A A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	400						A
Maximum Instantaneous Forward Voltage at 6.0A 100A	0.90 1.25					0.95 1.3	V V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 25°C T _J = 100°C	25.0 1.0						μA mA
Typical Thermal Resistance ROJL at 0.5" (12.7mm) lead length	10.0						°C/W
Operating and Storage Temperature Range T _J , T _{STG}	-65° to +175						°C

RATING AND CHARACTERISTIC CURVES **GI750 SERIES**

FIG. 1 — MAXIMUM FORWARD CURRENT DERATING CURRENT

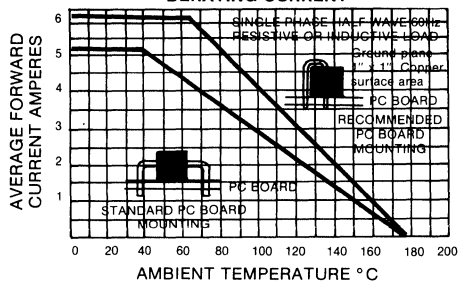


FIG. 3 — TYPICAL FORWARD CHARACTERISTICS

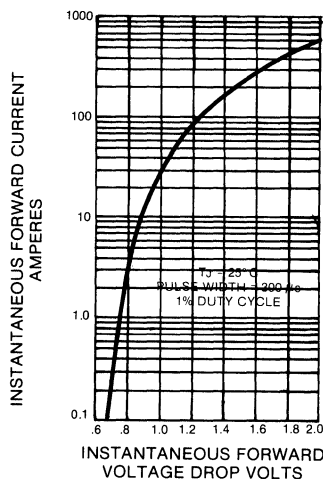


FIG. 5 — MAXIMUM PEAK FORWARD SURGE CURRENT

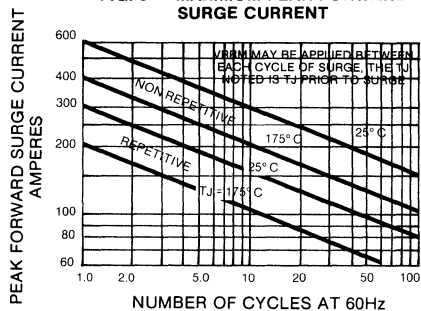


FIG. 2 — MAXIMUM FORWARD CURRENT DERATING CURVE

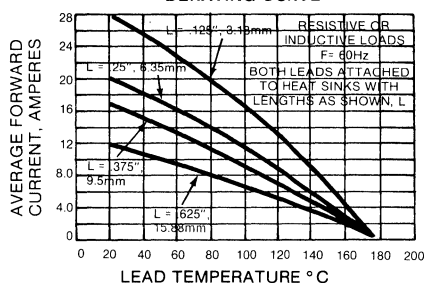


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

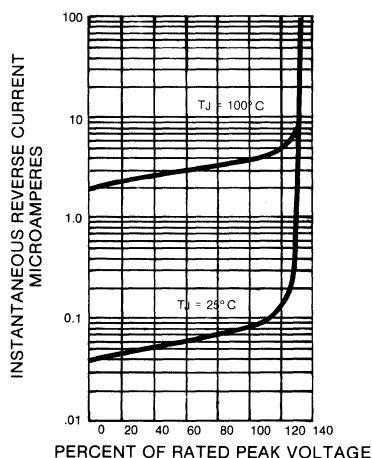
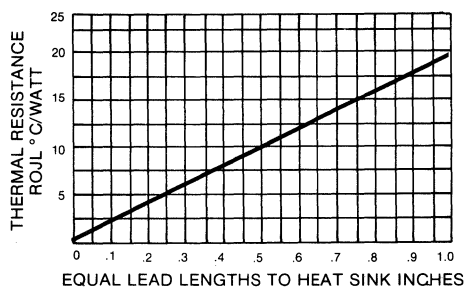


FIG. 6 — TYPICAL STEADY STATE THERMAL RESISTANCE



P600A THRU P600M

HIGH CURRENT PLASTIC SILICON RECTIFIER

**GENERAL
INSTRUMENT**



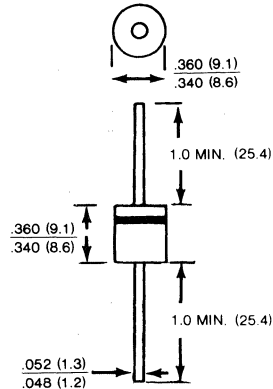
FEATURES

- High Current Lead Mounted
- Diffused Junction
- High Surge Capability
- Low Forward Voltage Drop
- Completely Insulated Case
- Uniform Molded Body
- The plastic material carries U/L recognition 94V-0
- High temperature soldering guaranteed 300°C/10 seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded Plastic
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208
 Polarity: Color Band Denotes Cathode
 Mounting Position: Any
 Weight: 0.07 ounce, 2.1 grams

VOLTAGE RANGE
 50 to 1000 Volts
CURRENT
 6.0 Amperes



Dimensions in inches (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase half sine-wave 60 Hz resistive or inductive load.

	P600A	P600B	P600D	P600G	P600J	P600K	P600M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length $T_A = 60^\circ\text{C}$ (Fig. 1) $T_L = 60^\circ\text{C}$ (Fig. 2)	6.0 25.0							A A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	400							A
Maximum Instantaneous Forward Voltage at $I_F = 6.0\text{A}$ $I_F = 100\text{A}$	0.90 1.30						1.0 1.4	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$	25.0 100.0							μA
Typical Thermal Resistance $R_{\theta JA}$ at 0.5" (12.7mm) lead length	10.0							$^\circ\text{C/W}$
Operating and Storage Temperature Range T_J, T_{STG}	-65° to +175							$^\circ\text{C}$

RATING AND CHARACTERISTIC CURVES
P600 SERIES

FIG. 1 — OUTPUT CURRENT VS AMBIENT TEMPERATURE

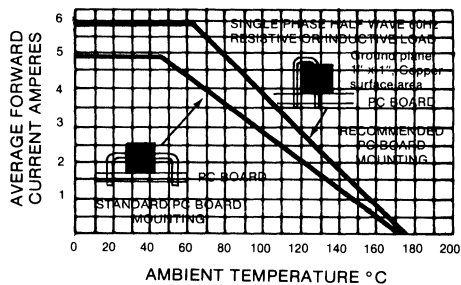


FIG. 2 — OUTPUT CURRENT VS LEAD TEMPERATURE

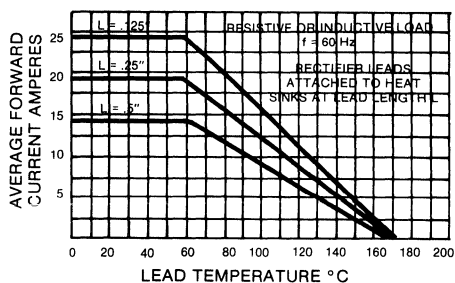


FIG. 3 — TYPICAL FORWARD CHARACTERISTIC

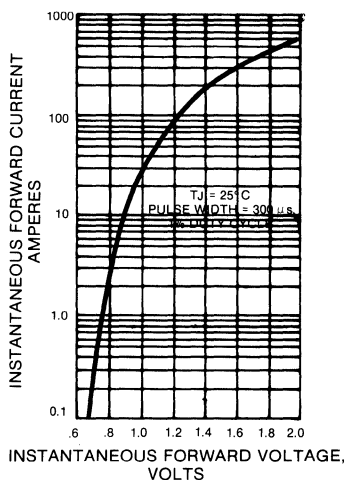


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

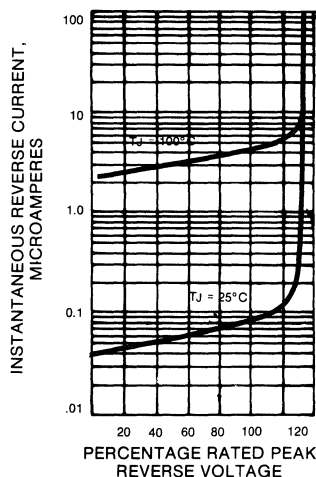


FIG. 5 — PEAK SURGE CURRENT VS. CYCLES

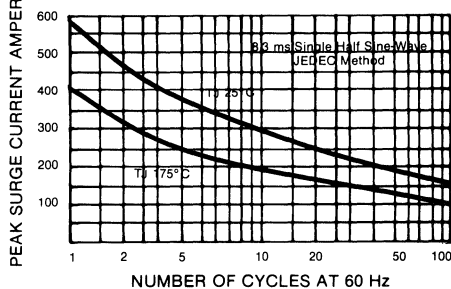
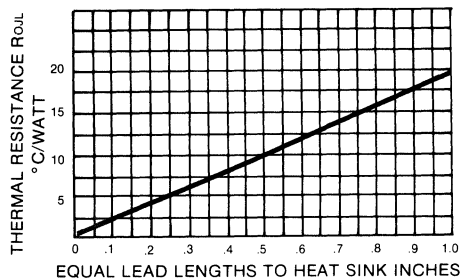


FIG. 6 — TYPICAL THERMAL RESISTANCE VS LEAD LENGTH



**PLASTIC
RECTIFIERS
8.0 AMPERES TO 30 AMPERES
50 TO 100 VOLTS**

NS8AT THRU NS8MT

8 AMPERE SILICON RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory mability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500
- High current capability
- High surge capacity
- Low forward voltage
- Glass passivated junction

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

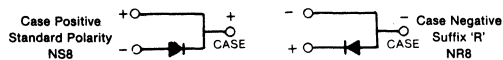
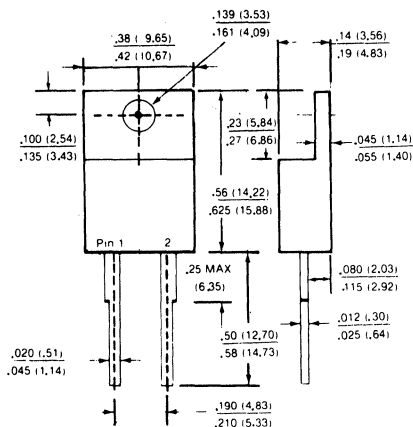
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

8.0 Amperes

TO-220



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	NS8AT	NS8BT	NS8DT	NS8GT	NS8JT	NS8KT	NS8MT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at Tc = 100°C	8.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	175							A
Maximum Instantaneous Forward Voltage at 8.0A	1.1							V
Maximum Average Reverse Current at Peak Reverse Voltage Tc = 25°C	10							μA
Tc = 100°C	100							μA
Typical Thermal Resistance RθJC (Note 1)	3.0							°C/W
Typical Junction Capacitance (Note 2)	55							pF
Storage and Operating Temperature Range Tc, Tstg	-65 to +150							°C

NOTES:

1. Thermal Resistance Junction to CASE.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

**RATING CHARACTERISTIC CURVES
NS8AT THRU NS8MT**

Fig. 1 — FORWARD CURRENT DERATING CURVE

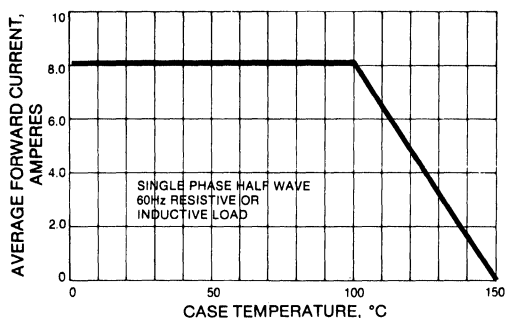


Fig. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

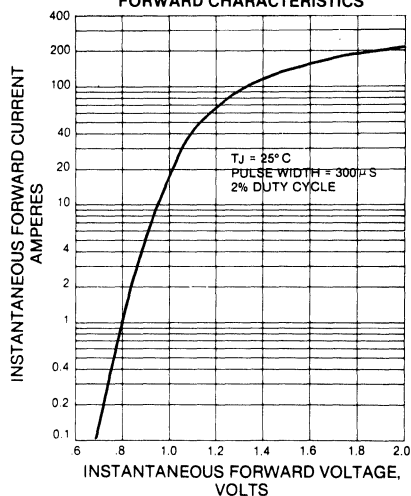


Fig. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

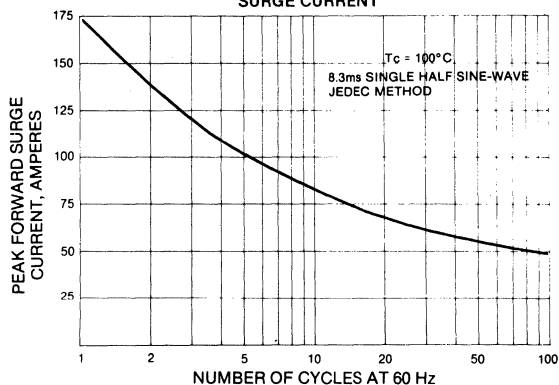


Fig. 4 — TYPICAL REVERSE CHARACTERISTICS

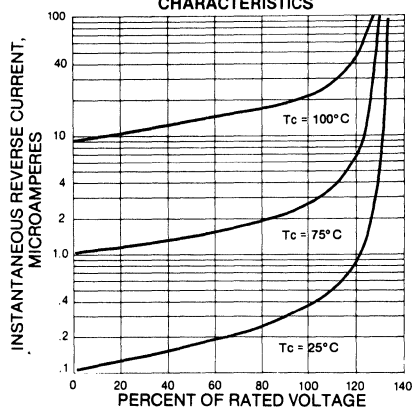
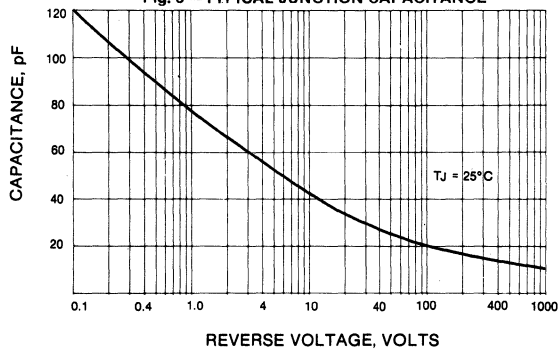


Fig. 5 — TYPICAL JUNCTION CAPACITANCE



NP16AT THRU NP16MT

16 AMPERE SILICON RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- High current capability
- High surge capacity
- Low forward voltage

MECHANICAL DATA

Case: TO-220 molded plastic

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

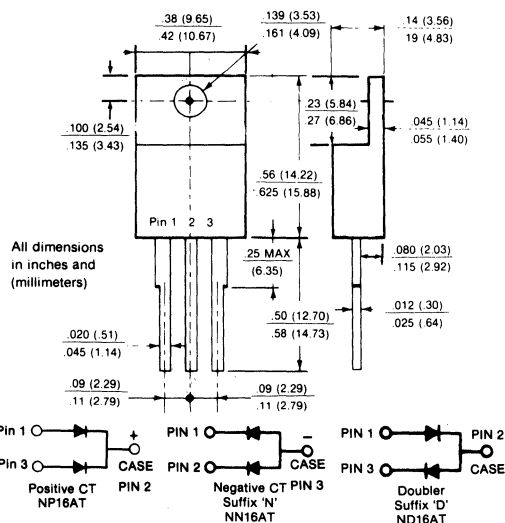
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

16.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	NP16AT	NP16BT	NP16DT	NP16GT	NP16JT	NP16KT	NP16MT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at Tc = 100°C	16.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300							A
Maximum Instantaneous Forward Voltage at 8A	1.1							V
Maximum Reverse Current at Rated DC Blocking Reverse Voltage Tc = 25°C Per Element Tc = 100°C	10 100							μA μA
Typical Thermal Resistance RθJC (Note 1)	3.0							°C/W
Typical Junction Capacitance (Note 2)	55							pF
Storage and Operating Temperature Range Tc, Tstg	-65 to +150							°C

NOTES:

1. Thermal resistance for each junction to case

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

**RATING CHARACTERISTIC CURVES
NP16AT THRU NP16MT**

Fig. 1—FORWARD CURRENT DERATING CURVE

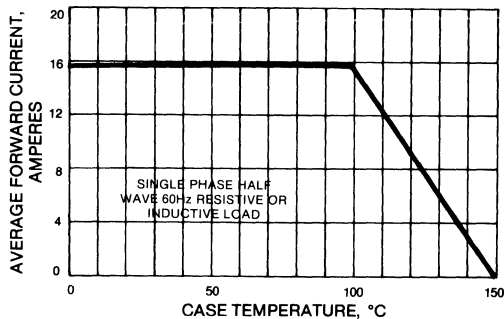


Fig. 2—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

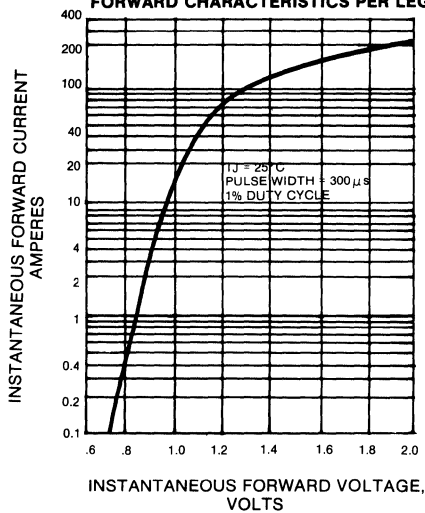


FIG. 3 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

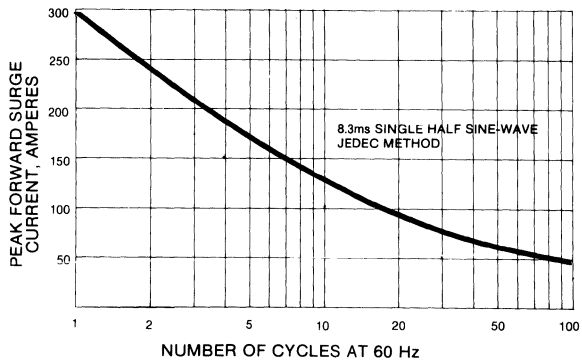


FIG. 4—TYPICAL REVERSE CHARACTERISTICS PER LEG

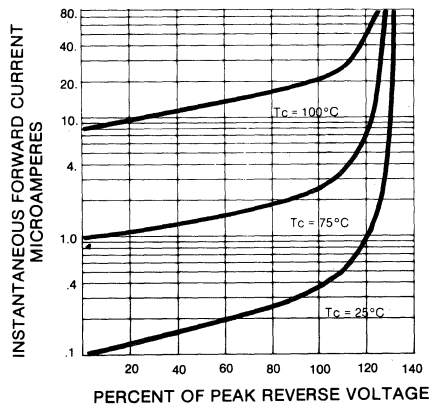
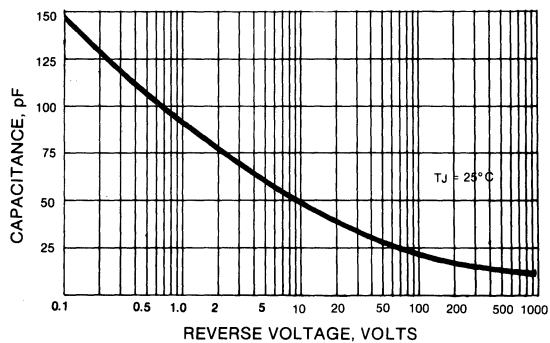


FIG. 5—TYPICAL JUNCTION CAPACITANCE



ARS25/AR25 SERIES

HIGH CURRENT PLASTIC SILICON RECTIFIERS

**GENERAL
INSTRUMENT**



FEATURES

- High current capability
- Plastic material carries U/L recognition 94V-0. It is General Instrument's proprietary 4B Flame-retardant epoxy molding compound.
- High surge current capability
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: 250°C/10 seconds
- Low Cost
- Easily Cleaned with Freon, Alcohol, Chloroethene and Similar Solvents

MECHANICAL DATA

Case: Transfer molded plastic

Terminals: Tin plated copper

Polarity: Color band denotes cathode and indicates voltage type.

Weight: 0.07 ounce, 1.8 grams

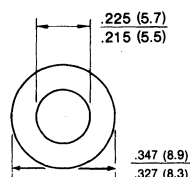
VOLTAGE RANGE

50 to 1000 Volts

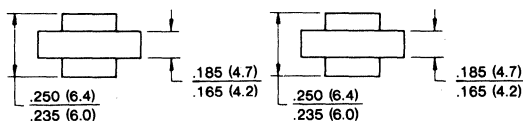
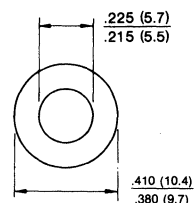
CURRENT

25 Amperes

ARS



AR



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60 Hz.

For capacitive load derate current by 20%.

	ARS25A AR25A	ARS25B AR25B	ARS25D AR25D	ARS25G AR25G	ARS25J AR25J	ARS25K AR25K	ARS25M AR25M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ T _c = 150°C	25							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	400							A
Maximum Forward Voltage at 25A	1.0							V
Maximum Reverse Current at T _c = 25°C	25							μA
Rated DC Blocking Voltage T _c = 100°C	250							μA
Typical Junction Capacitance (Note 1)	300							pF
Typical Reverse Recovery Time (Note 2)	3.0							μS
Operating and Storage Temperature Range T _j	-65 to +175							°C
Polarity Color Band	Red	Yellow	Silver	Orange	Green	Blue	Violet	

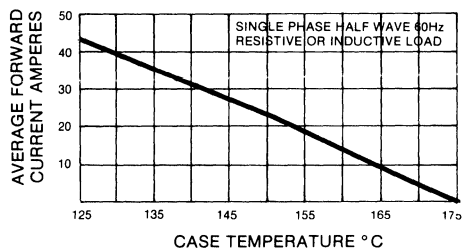
NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 volts

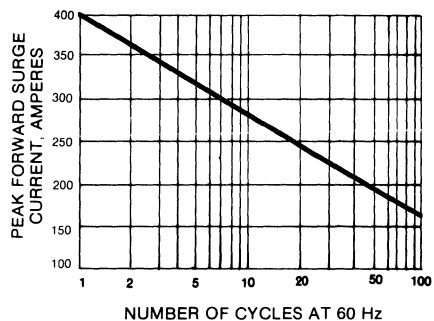
2. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A

RATING AND CHARACTERISTIC CURVES
ARS25/AR25 SERIES

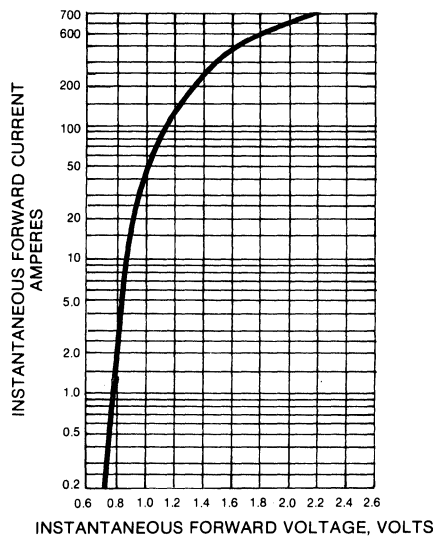
**FIG. 1 — MAXIMUM DERATING CURVE
 FORWARD CURRENT**



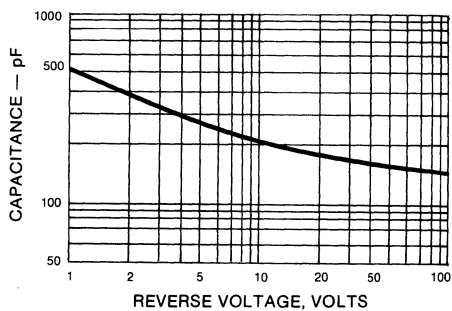
**FIG. 2 — MAXIMUM PEAK FORWARD
 SURGE CURRENT**



**FIG. 3 — TYPICAL INSTANTANEOUS
 FORWARD CHARACTERISTICS**



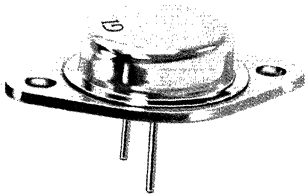
**FIG. 4 — TYPICAL JUNCTION CAPACITANCE
 VS. REVERSE VOLTAGE**



NP30AM THRU NP30MM

30 AMPERES SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Dual rectifier construction, positive center-tap
- Convenient, mechanically rugged, hermetically sealed package
- Exceeds environmental standards of MIL-STD-19500
- High surge capability
- High current capability
- Low forward voltage

MECHANICAL DATA

Case: TO-3 metal

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .47 ounces, 13.2 grams

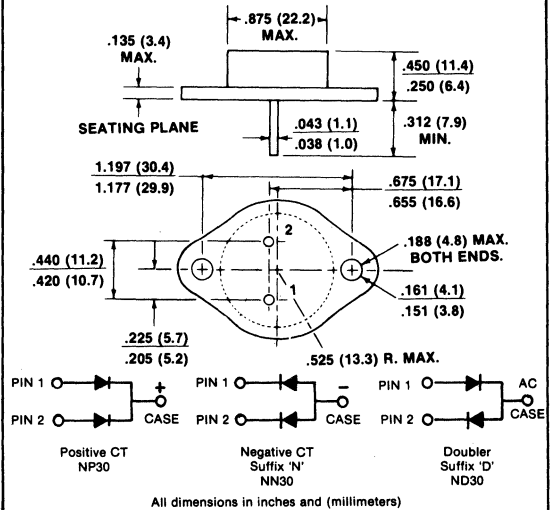
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

30 Amperes

TO-3



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	NP30AM	NP30BM	NP30DM	NP30GM	NP30JM	NP30KM	NP30MM	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _c = 100°C	30.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300							A
Maximum Instantaneous Forward Voltage at 15A	1.1							V
Maximum Average Reverse Current at Rated DC Blocking Voltage per element T _c = 25°C T _c = 100°C	10 100							μA μA
Typical Thermal Resistance R _{θJC} (Note 1)	1.4							°C/W
Typical Junction Capacitance (Note 2)	160							pF
Storage and Operating Temperature Range T _c , T _{stg}	-65 to +150							°C

NOTES:

1. Thermal Resistance Junction to CASE
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATING CHARACTERISTIC CURVES
NP30AM THRU NP30MM

Fig. 1 — FORWARD CURRENT DERATING CURVE

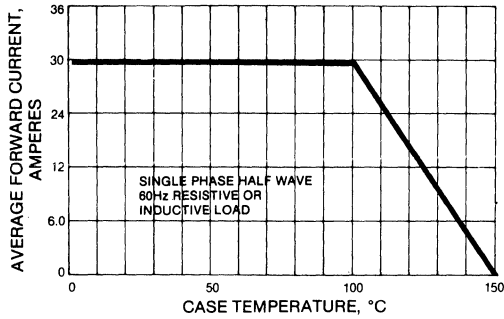


Fig. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

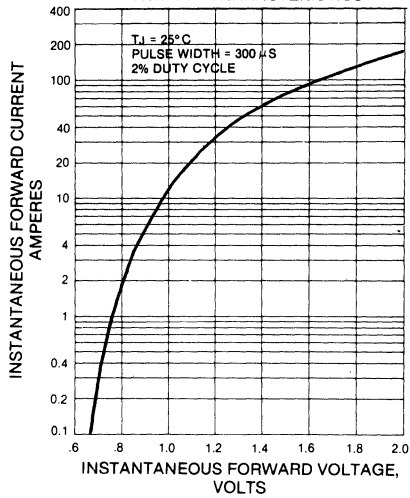


Fig. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

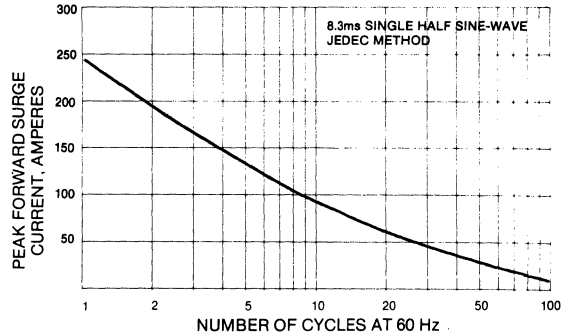


Fig. 4 — TYPICAL REVERSE CHARACTERISTICS

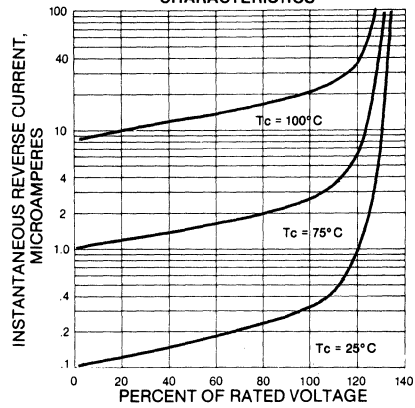
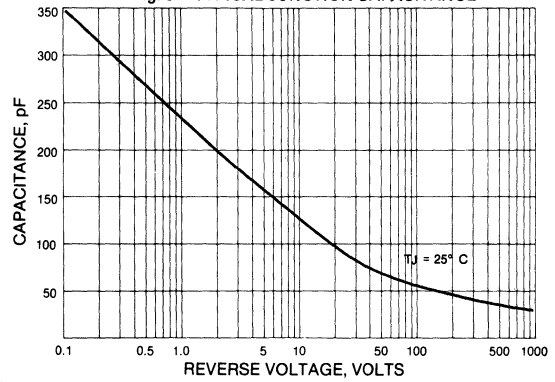


Fig. 5 — TYPICAL JUNCTION CAPACITANCE



**FAST RECOVERY
PLASTIC
RECTIFIERS
1.0 AMPERE TO 6.0 AMPERES
50 VOLTS TO 800 VOLTS**

1N4933 THRU 1N4937

MINIATURE PLASTIC FAST SWITCHING RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- Low cost
- Plastic Package has Underwriters Laboratory Flammability Classification 94V-0.
- Fast switching for high efficiency.
- Exceeds environmental standards of MIL-STD-19500
- 1 Ampere operation at $T_A = 75^\circ\text{C}$ with no thermal runaway.
- High Temperature soldering Guaranteed 300°C / 10 seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension.

MECHANICAL DATA

Case: JEDEC DO-41, molded case
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting Position: Any
Weight: 0.012 ounce, 0.34 gram

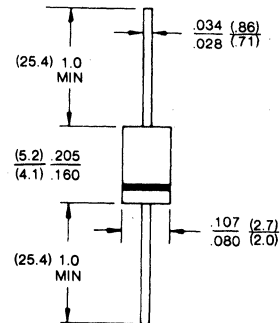
VOLTAGE RANGE

50 to 600 Volts

CURRENT

1.0 Ampere

DO-41



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	1N4933	1N4934	1N4935	1N4936	1N4937	UNITS
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
* Maximum RMS Voltage	35	70	145	280	420	V
* Maximum DC Blocking Voltage	50	100	200	400	600	V
* Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 75^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3ms single half sine-wave at $T_A = 75^\circ\text{C}$ superimposed on rated load (JEDEC method)	30					A
* Maximum Instantaneous Forward Voltage at 1.0A $T_A = 75^\circ\text{C}$	1.2					V
* Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	5.0 100					μA
* Maximum Reverse Recovery Time (Note 1)	200					ns
Typical Junction Capacitance (Note 2)	15					pF
* Operating Temperature Range T_J	-65 to +150					$^\circ\text{C}$
Storage Temperature Range, T_{STG}	-65 to +175					$^\circ\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F = 1.0\text{A}$, $V_R = 30\text{V}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.
- * JEDEC registered values.

RATING AND CHARACTERISTIC CURVES
1N4933 THRU 1N4937 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

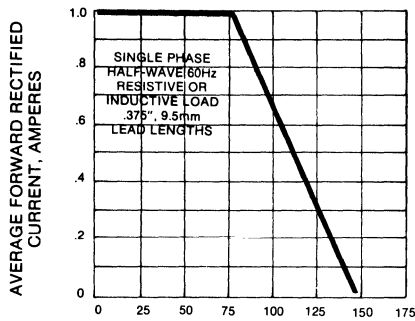


FIG. 3 — TYPICAL JUNCTION CAPACITANCE

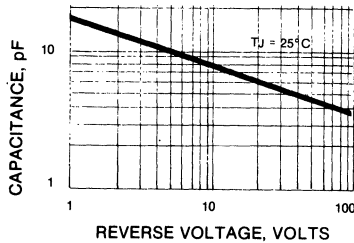


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

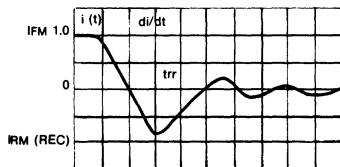
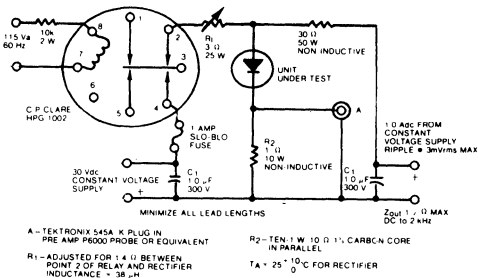


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

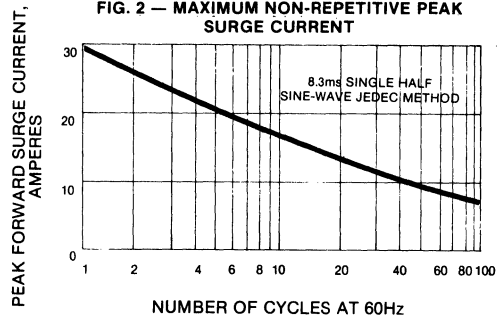
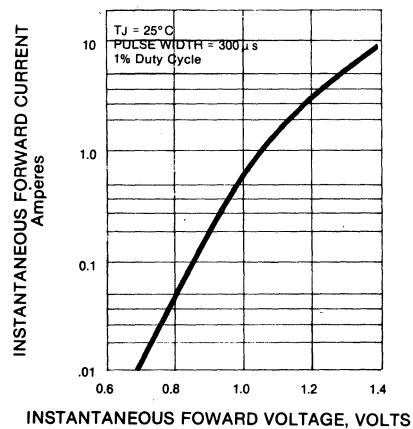


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



SRP100 SERIES

SOFT-RECOVERY, FAST SWITCHING PLASTIC RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Void-free plastic in a DO-41 package
- 1.0 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $250^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

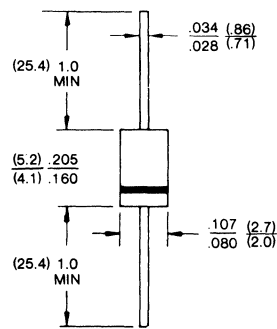
VOLTAGE RANGE

50 to 800 Volts

CURRENT

1.0 Amperes

DO-41



Dimensions in inches and millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SRP100A	SRP100B	SRP100D	SRP100G	SRP100J	SRP100K	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0						A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30						A
Maximum Instantaneous Forward Voltage at 1.0A	1.3						V
Maximum Reverse Current at rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	10.0 200						μA
Typical Junction Capacitance (Note 1)	12						pF
Maximum Reverse Recovery Time (Note 2)	100	100	100	100	200	200	ns
Operating Temperature Range, T_J	-65 to $+125$						$^\circ\text{C}$
Storage Temperature Range T_{STG}	-65 to $+150$						$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES
SRP100 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

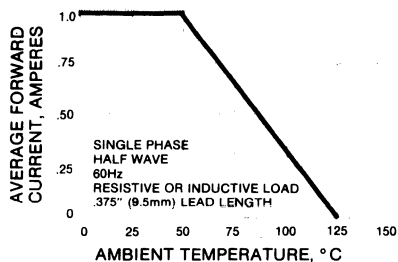


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

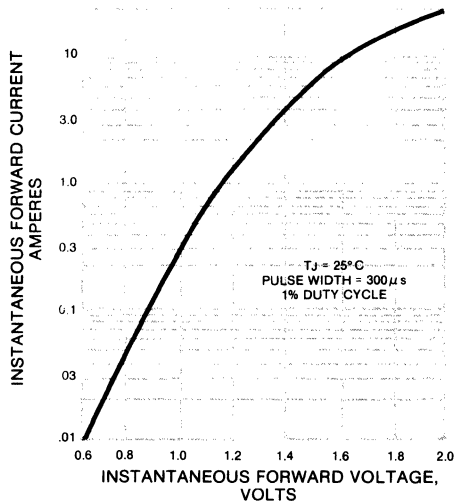


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

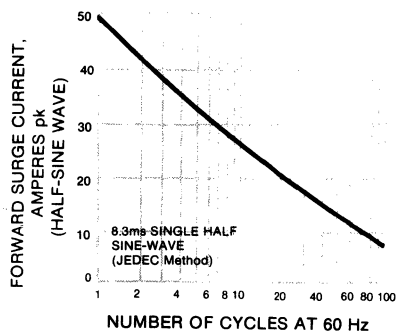


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

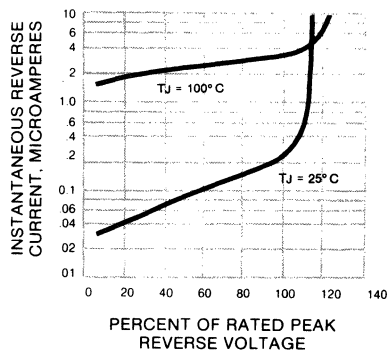


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

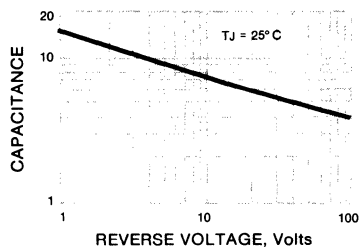
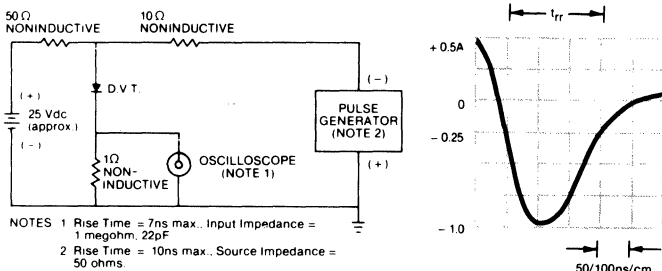


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM



GI910 SERIES

SOFT RECOVERY MEDIUM-SWITCHING PLASTIC RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High surge current capability
- Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- Void-free plastic package
- High current operation Amperes at $T_A = 90^\circ\text{C}$
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $250^\circ\text{C}/10$ seconds/.375, (9.5mm) lead length/5 lbs., (2.3 kg) tension

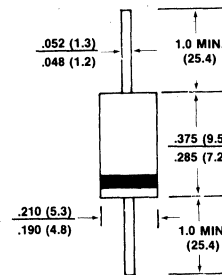
MECHANICAL DATA

Case: Molded plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Band denotes cathode
Mounting position: Any
Weight: .04 ounce, 1.1 grams

VOLTAGE RANGE
50 to 1000 Volts PRV

CURRENT
3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI910	GI911	GI912	GI914	GI916	GI917	GI918	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Lengths at $T_A = 90^\circ\text{C}$	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	100							A
Maximum Instantaneous Forward Voltage at	1.25 1.1							V V
Maximum Reverse Current, at Rated DC Blocking Voltage	10.0 300							μA
Typical Junction Capacitance (Note 1)	28.0							pF
Maximum Reverse Recovery Time $I_F = 1.0\text{A}$ to $V_R = 30\text{V}$	750							ns
Maximum Reverse Recovery Current I_{RM}	2.0							A_{pk}
Operating and Storage Temperature Range T_J, T_{STG}	-65 to +150							$^\circ\text{C}$

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES
GI910 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

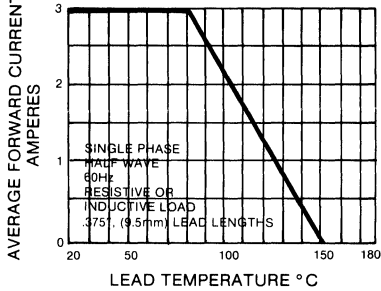


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS
 $T_J = 25^\circ\text{C}$

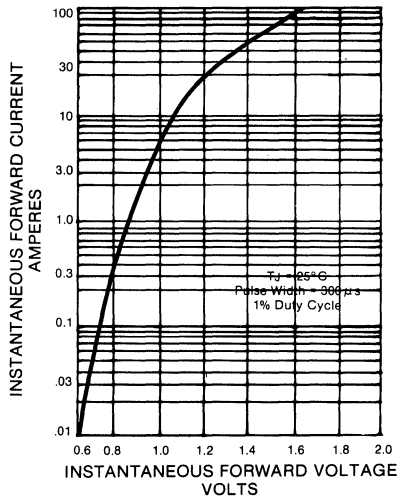


FIG. 2 — MAXIMUM FORWARD SURGE CURRENT

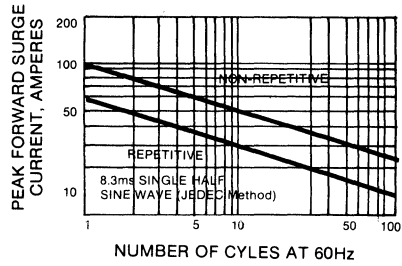


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

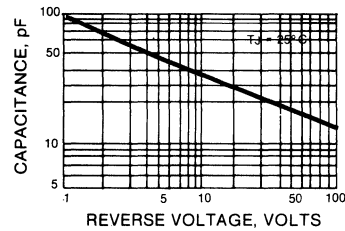
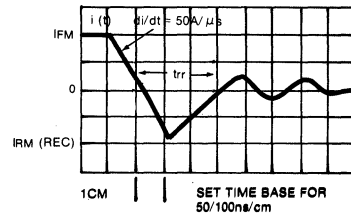
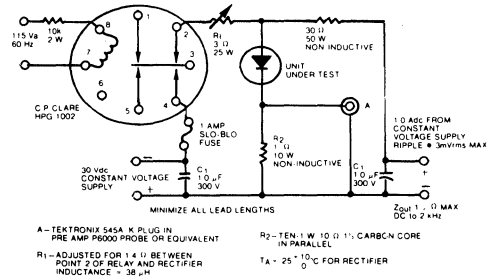


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



GI850 SERIES

SOFT RECOVERY, FAST SWITCHING PLASTIC RECTIFIER

**GENERAL
INSTRUMENT**



VOLTAGE RANGE
50 to 600 Volts
CURRENT
3.0 Amperes

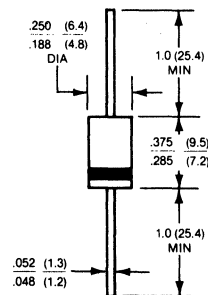
FEATURES

- High surge current capability
- Plastic material carries U/L recognition 94V-0. It is General Instrument's proprietary 4B Flame-retardant epoxy molding compound.
- Void-free plastic package
- High current operation 3 amperes at $T_A = 90^\circ\text{C}$
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $300^\circ\text{C}/10$ seconds/.375", 9.5mm lead length/5 lbs., 11 kg tension

MECHANICAL DATA

Case: Molded plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode
Mounting position: Any
Weight: .04 ounce, 1.1 grams

DO-201-AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single-phase, half-wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	GI850	GI851	GI852	GI854	GI856	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
Maximum RMS Voltage	35	70	140	280	420	V
Maximum DC Blocking Voltage	50	100	200	400	600	V
Maximum Average Forward Rectified Current at .375", 9.5mm lead length $T_A = 90^\circ\text{C}$	3.0					A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	100					A
Maximum Forward Voltage at 3A $T_J = 25^\circ\text{C}$ at 9.4A $T_J = 175^\circ\text{C}$	1.25 1.1					V V
Maximum Reverse Current, at Rated DC Blocking Voltage $T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$	150	150	200	250	300	μA
Typical Junction Capacitance at $V_R = 4\text{V}$, $T_J = 25^\circ\text{C}$	28.0					pF
Maximum Reverse Recovery Time at $I_F = 1.0\text{A}$ to $V_R = 30\text{V}$	200					ns
Reverse Recovery Current I_{RM}	2.0					A _{pk}
Operating and Storage Temperature Range T_J , T_{STG}	-65 to +175					$^\circ\text{C}$

**RATING AND CHARACTERISTIC CURVES
GI850 SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

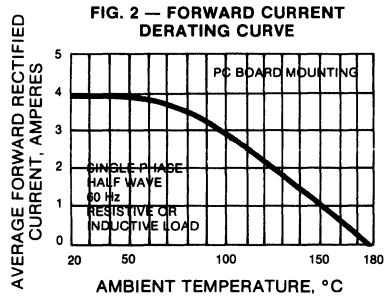
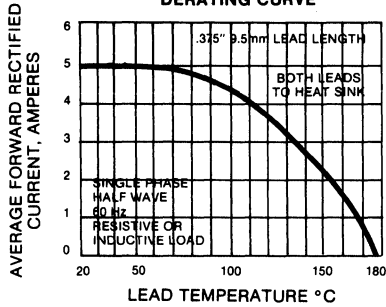


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

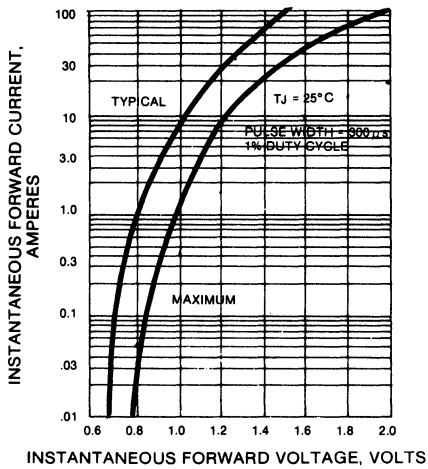


FIG. 4 — MAXIMUM PEAK FORWARD SURGE CURRENT

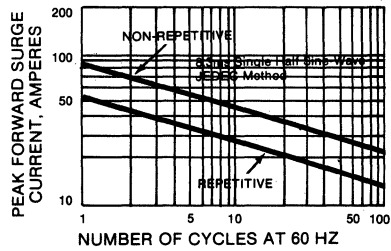
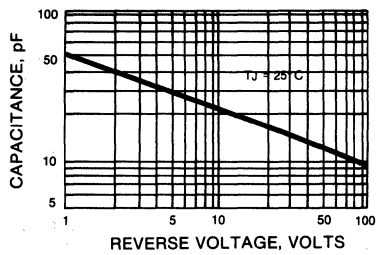


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



SRP300 SERIES

SOFT-RECOVERY, FAST SWITCHING PLASTIC RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Void-free plastic in a DO-241AD package
- 3.0 ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $300^\circ\text{C}/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Band denotes cathode
Mounting Position: Any
Weight: .04 ounce, 1.1 grams

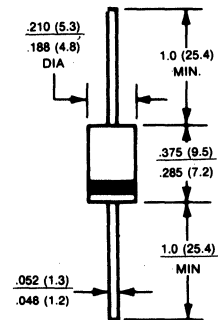
VOLTAGE RANGE

50 to 800 Volts

CURRENT

3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SRP300A	SRP300B	SRP300D	SRP300G	SRP300J	SRP300K	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at T _A = 55°C	3.0						A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	150						A
Maximum Instantaneous Forward Voltage at 3.0A	1.3						V
Maximum Reverse Current T _A = 25°C	10.0						μA
at rated DC Blocking Voltage T _A = 100°C	200			300	400	500	μA
Typical Junction Capacitance (Note 1)	60.0						pF
Maximum Reverse Recovery Time (Note 2)	100	100	150	150	200	200	ns
Storage and Operating Temperature Range, T _J , T _{STG}	-65 to +175						

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0 Volts.
2. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = .25\text{A}$.

RATING AND CHARACTERISTIC CURVES **SRP300 SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

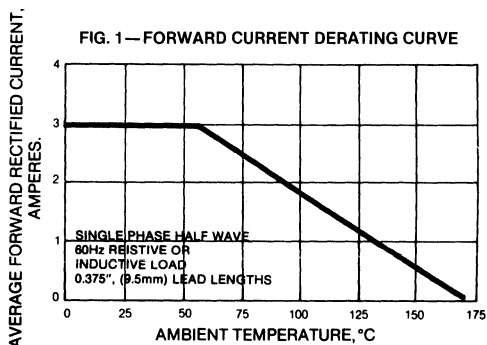


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

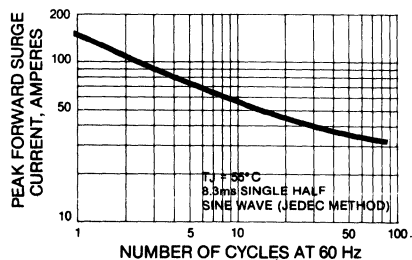


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

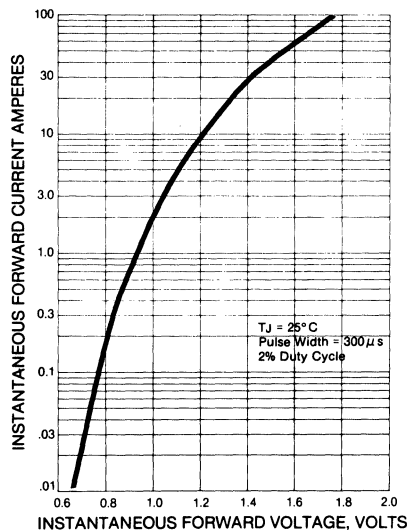


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

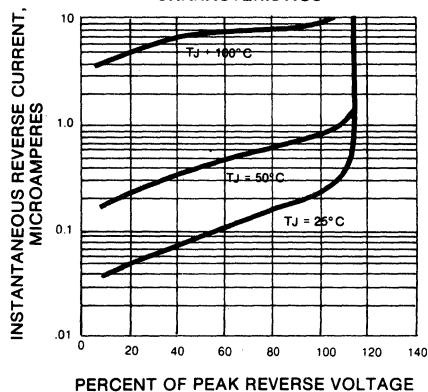
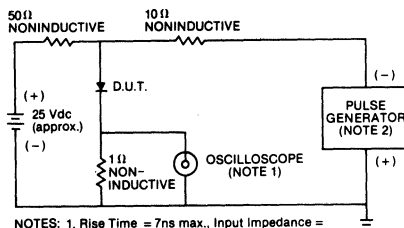


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time = 7ns max., Input Impedance = 1 megohm, 22pF.
2. Rise Time = 10ns max., Source Impedance = 50 ohms.

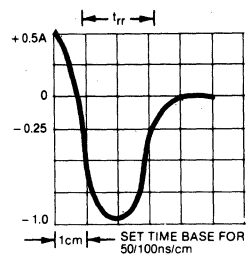
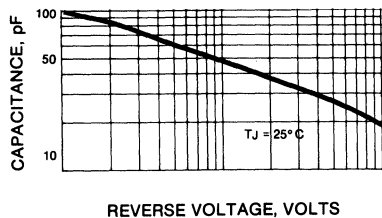


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



GI820 SERIES

HIGH CURRENT FAST-SWITCHING PLASTIC RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

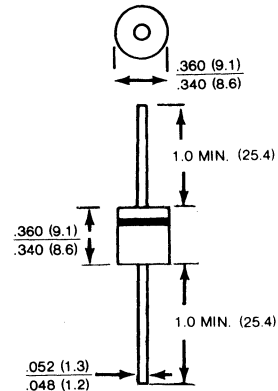
- High Current Lead
- Diffused Junction
- High Surge Capability
- Completely Insulated Case
- Uniform Molded Body
- The plastic material has Underwriters Laboratory Flammability Classification 94V-0
- Fast Switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 350°C/10 seconds/.375" (9.5mm) lead lengths/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded Plastic
 Terminals: Axial leads solderable per MIL-STD-202 Method 208
 Polarity: Band Denotes Cathode
 Mounting Position: Any
 Weight: 0.07 ounce, 2.1 grams

VOLTAGE RANGE
 50 to 600 Volts

CURRENT
 5.0 Amperes



Dimensions in inches (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	GI820	GI821	GI822	GI824	GI826	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
Maximum RMS Voltage	35	70	140	280	420	V
Maximum DC Blocking Voltage	50	100	200	400	600	V
Maximum Average Forward Rectified Current .375", 9.5mm Lead Lengths at T _A = 55° C	5.0					A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	300					A
Maximum Instantaneous Forward Voltage at 5.0A	1.0					V
Maximum Reverse Recovery Time I _F = 1.0A to V _R = 30V	200					ns
Maximum Reverse Recovery Current, I _{RM}	2.0					APK
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 25° C T _J = 100° C	.025 1.0					mA mA
Typical Thermal Resistance R _{θJL} at 0.5", 12.7mm lead length	10.0					° C/W
Operating and Storage Temperature Range T _J , T _{STG}	-65° to +175					° C

RATING AND CHARACTERISTIC CURVES **GI820 SERIES**

FIG. 1 — FORWARD CURRENT DERATING CURVE

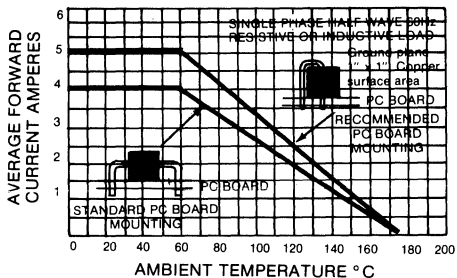


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

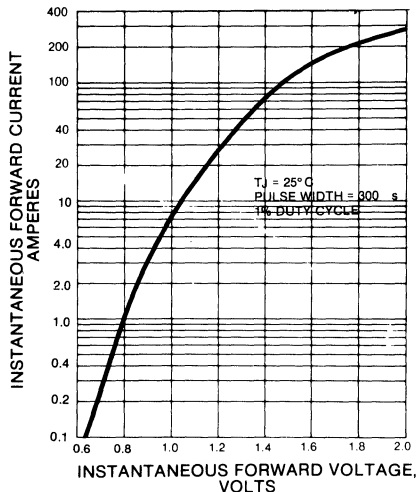


FIG. 5 — TYPICAL THERMAL RESISTANCE

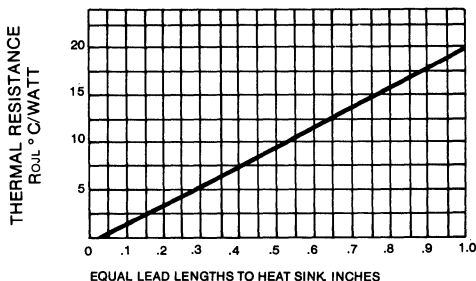


FIG. 2 — FORWARD CURRENT DERATING CURVE

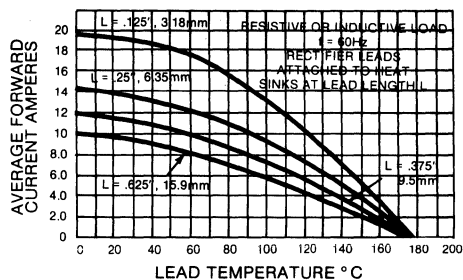


FIG. 4 — MAXIMUM NON-REPETITIVE SURGE CURRENT

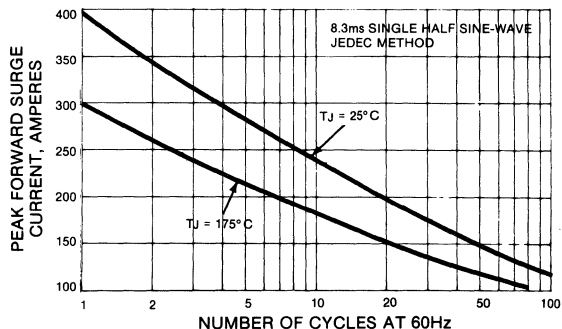
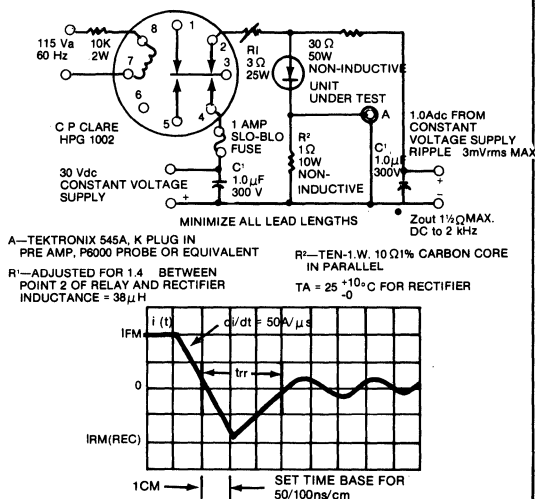


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



SRP600 SERIES

HIGH CURRENT SOFT RECOVERY FAST-SWITCHING PLASTIC RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- High surge current capability
- Plastic material carries U/L recognition 94V-0.
- High current operation
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 300°C/10 seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting position: Any

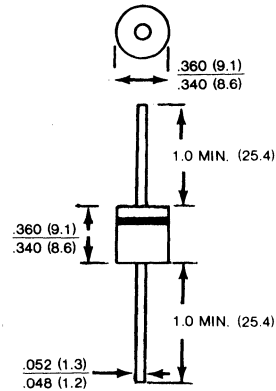
Weight: 0.07 ounce, 2.1 grams

VOLTAGE RANGE

50 to 800 Volts

CURRENT

6.0 Amperes



Dimensions in inches (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase half sine-wave 60 Hz resistive or inductive load.
For capacitive load derate current by 20%.

	SRP600A	SRP600B	SRP600D	SRP600G	SRP600J	SRP600K	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current .375" (9.5mm) lead lengths @ TA = 55°C	6.0						A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300						A
Maximum Instantaneous Forward Voltage at 6.0A	1.3						V
Maximum Reverse Recovery Time (Note 1)	100	100	150	150	200	200	ns
Typical Junction Capacitance (Note 2)	300						pf
Maximum DC Reverse Current at Rated DC Blocking Voltage TJ = 25°C TJ = 100°C	.025 1.0						mA
Typical Thermal Resistance RθJL at 0.5" (12.7mm) lead length	10.0						°C/W
Operating Temperature Range, TJ	-65 to +125						°C
Storage Temperature Range, TSTG	-65 to +150						°C

NOTES:

1. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A
2. Measured at 1MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES
SRP600 SERIES

FIG. 1 — FORWARD CURRENT DERATING CURVE

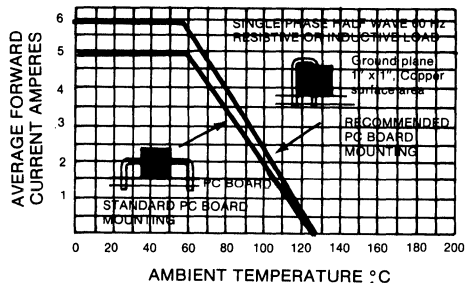


FIG. 2 — FORWARD CURRENT DERATING CURVE

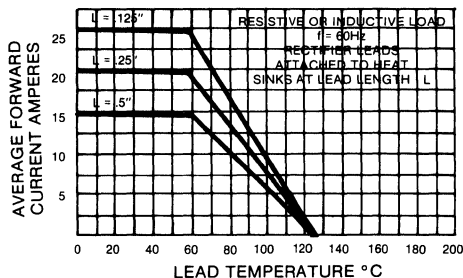


FIG. 3 — TYPICAL FORWARD CHARACTERISTICS

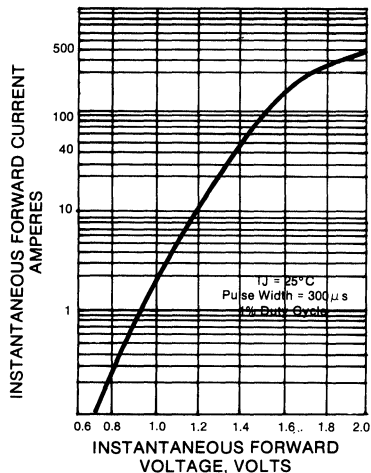


FIG. 5 — PEAK SURGE CURRENT VS. CYCLES

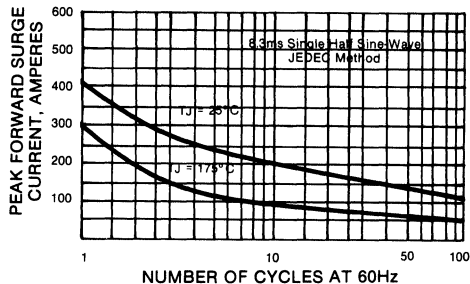
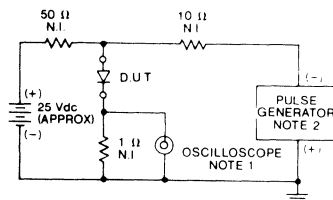
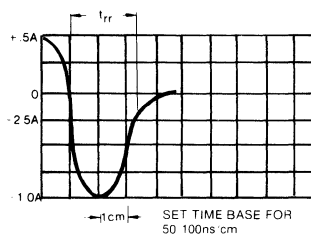


FIG. 4 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



- NOTES:
 1. RISE TIME - 7ns MAX, INPUT IMPEDANCE - 1 MEGOHM, 22pF
 2. RISE TIME - 10ns MAX, SOURCE IMPEDANCE - 50 OHM

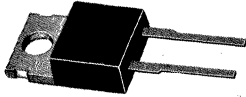


**FAST RECOVERY
RECTIFIERS
8.0 AMPERES TO 30 AMPERES
50 TO 1000 VOLTS**

RS8AT THRU RS8MT

8 AMPERE FAST RECOVERY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500
- High current capability
- High surge capacity
- Low forward voltage
- Fast switching for high efficiency
- Glass passivated junction

MECHANICAL DATA

Case: TO-220 molded plastic
Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

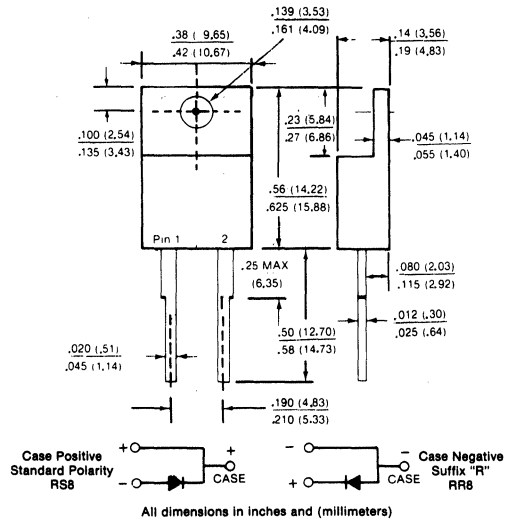
Mounting position: Any

Weight: .08 ounces, 2.24 grams

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
8.0 Amperes

TO-220



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

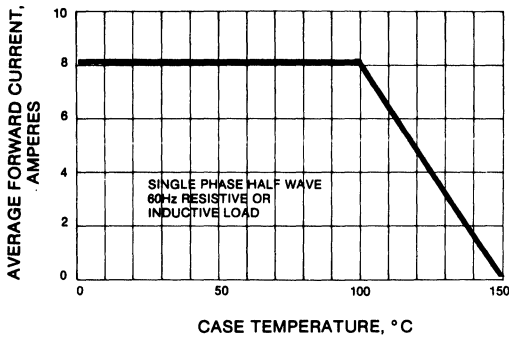
	RS8AT	RS8BT	RS8DT	RS8GT	RS8JT	RS8KT	RS8MT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _c = 100°C	8.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	150							A
Maximum Instantaneous Forward Voltage at 8.0A	1.3							V
Maximum Average Reverse Current at Rated DC Block Voltage T _c = 25°C T _c = 100°C	25 250							μA μA
Typical Junction Capacitance (Note 1)	55							pF
Maximum Reverse Recovery Time (Note 2)	150			200	250		500	ns
Typical Thermal Resistance R _{ΘJC} (Note 3)	3.0							°C/W
Storage and Operating Temperature Range T _c , T _{stg}	-65 to + 150							°C

NOTES:

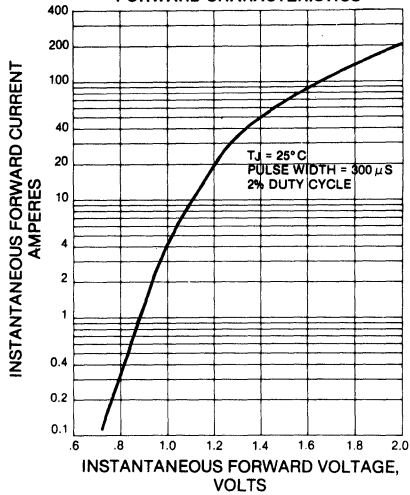
1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, I_{rr} = .25A.
3. Thermal Resistance Junction to CASE.

**RATING CHARACTERISTIC CURVES
RS8AT THRU RS8MT**

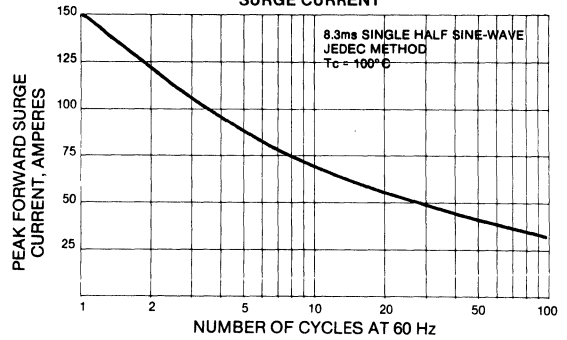
Fig. 1—FORWARD CURRENT DERATING CURVE



**Fig. 2—TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**



**Fig. 3—MAXIMUM NON-REPETITIVE
SURGE CURRENT**



**Fig. 4—TYPICAL REVERSE
CHARACTERISTICS**

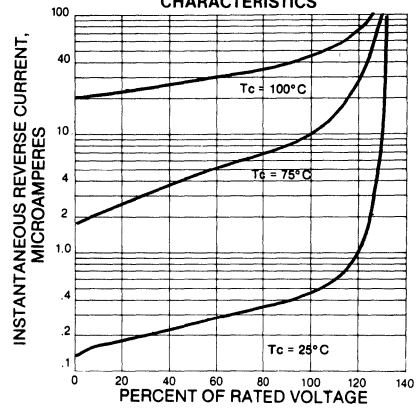
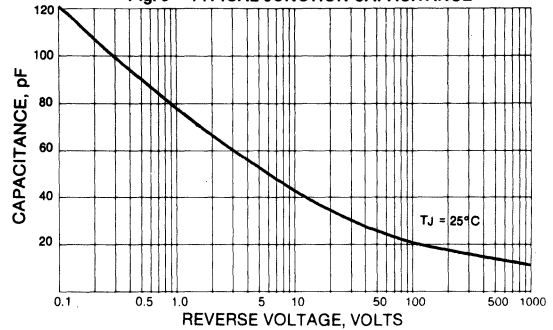


Fig. 5—TYPICAL JUNCTION CAPACITANCE



RP16AT THRU RP16KT

16 AMPERE FAST-RECOVERY RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Dual rectifier construction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- High current capability
- High surge capacity
- Low forward voltage
- Fast switching for high efficiency

MECHANICAL DATA

Case: TO-220 molded plastic
Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .08 ounces, 2.24 grams

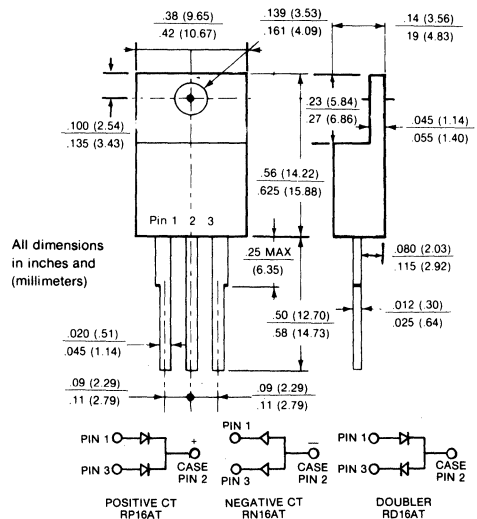
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

16 Amperes

TO-220 CT



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RP16AT	RP16BT	RP16DT	RP16GT	RP16JT	RP16KT	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current at Tc = 100° C	16.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200						A
Maximum Forward Voltage at 8.0A per element	1.2			1.3			V
Maximum Average Reverse Current At Peak Reverse Voltage Tc = 25° C Tc = 100° C	25 250						μ A μ A
Typical Junction Capacitance (Note 1)	30						pF
Maximum Reverse Recovery Time (Note 2)	150			200	250		ns
Typical Thermal Resistance RθJC (Note 3)	3.0						°C/W
Storage and Operating Temperature Range Tj	-65 to +150						°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts
2. Reverse Recovery Test Conditions: I_F = 5A, I_R = 1A, I_{rr} = .25A
3. Thermal Resistance for each junction to case.

**RATING CHARACTERISTIC CURVES
RP16AT THRU RP16KT**

FIG. 1—FORWARD CURRENT DERATING CURVE

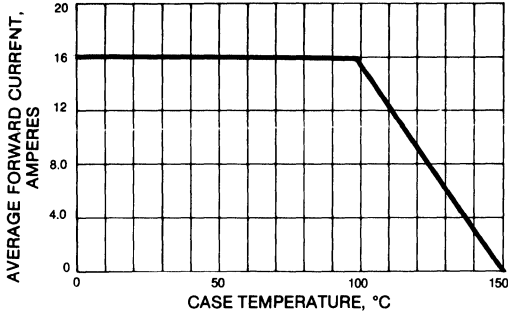


FIG. 2—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

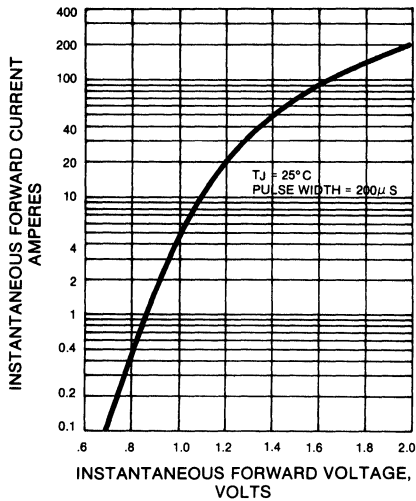


FIG. 3—MAXIMUM NON-REPETITIVE SURGE CURRENT

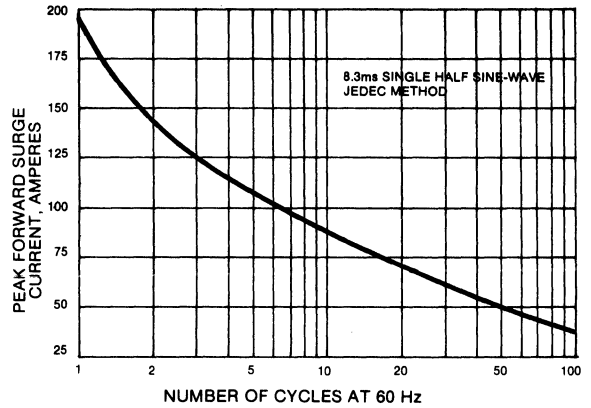


FIG. 4—TYPICAL REVERSE CHARACTERISTICS

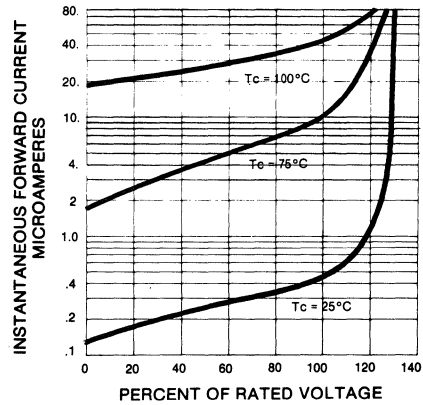
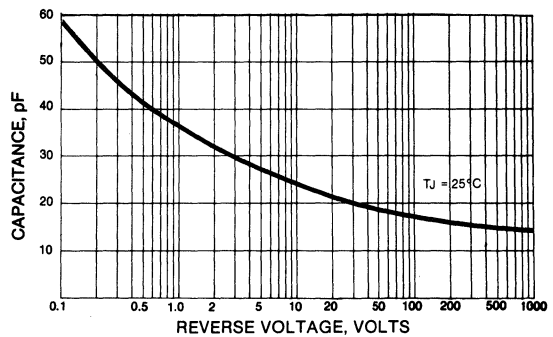
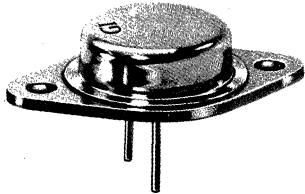


FIG. 5—TYPICAL JUNCTION CAPACITANCE



30 AMPERE FAST RECOVERY RECTIFIER

GENERAL INSTRUMENT



FEATURES

- Dual rectifier construction, positive center-tap
- Convenient, mechanically rugged, hermetically sealed package
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High surge capability
- High current capability

MECHANICAL DATA

Case: TO-3 metal

Terminals: Lead solderable per MIL-STD-202, Method 208

Polarity: As marked

Mounting position: Any

Weight: .47 ounces, 13.2 grams

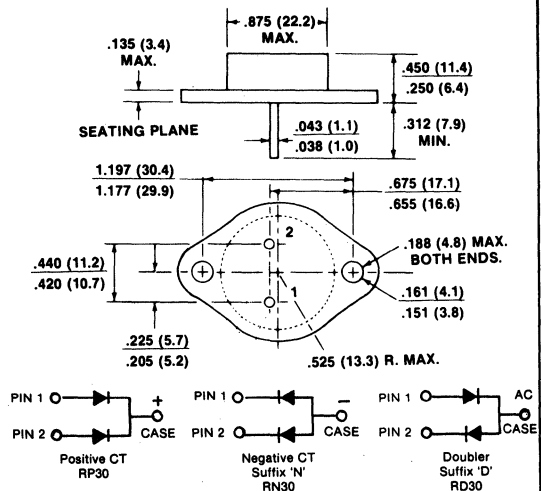
VOLTAGE RANGE

50 to 1000 Volts

CURRENT

30 Amperes

TO-3



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

[illegible]

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2. Reverse Recovery Test Conditions: $I_F = .5A$, $I_R = 1A$, $I_{RR} = .25A$.

3. Thermal Resistance Junction to CASE.

**RATING CHARACTERISTIC CURVES
RP30AM THRU RP30MM**

Fig. 1 — FORWARD CURRENT DERATING CURVE

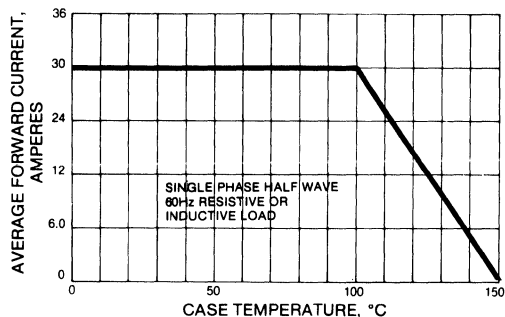


Fig. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

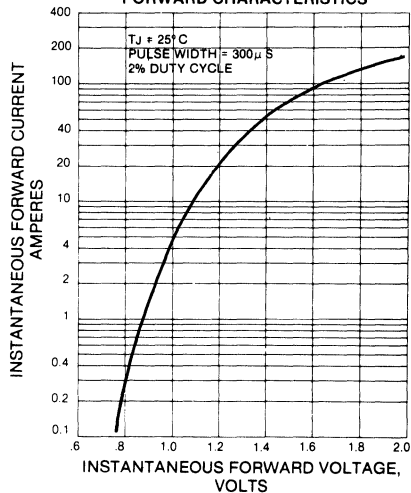


Fig. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

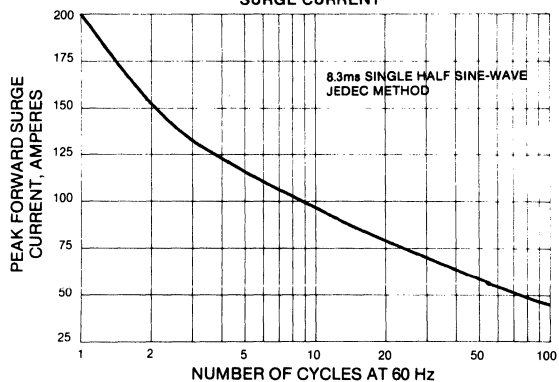


Fig. 4 — TYPICAL REVERSE CHARACTERISTICS

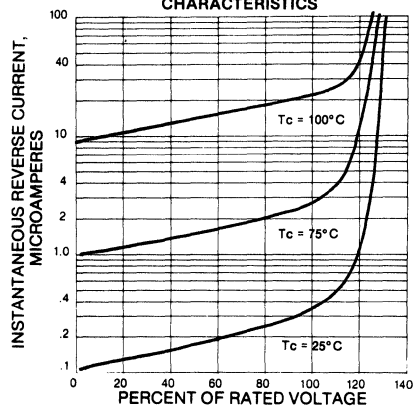
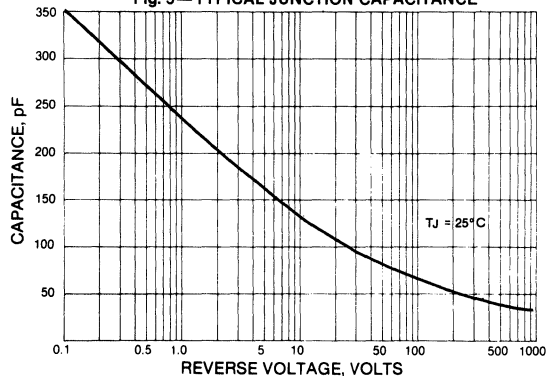


Fig. 5 — TYPICAL JUNCTION CAPACITANCE



**BRIDGE
RECTIFIERS
1.0 AMPERE TO 35 AMPERES
50 VOLTS TO 1000 VOLTS**

Families of General Instrument Bridge Rectifiers

All types of rectifier cells, which are produced by GENERAL INSTRUMENT, are available in bridge configurations, molded in various plastic and metal packages.

The basic types of packages are

- Round Plastic Package (Fig. 1)
- IN-LINE Plastic Package (Fig. 2)
- DUAL-IN-LINE Plastic Package (Fig. 3)
- Square Plastic/Metal Package for Chassis Mounting (Fig. 4)

These bridge families are available with different terminals, such as wire leads, FASTON or soldering lugs.

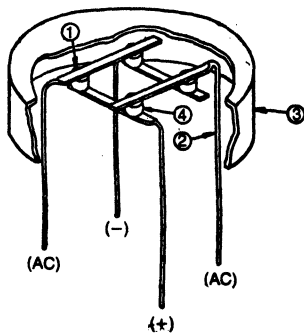


Fig. 1 Round Bridge

ITEM	DESCRIPTION
1	Solder Preforms
2	Formed Leads
3	Case
4	Cell

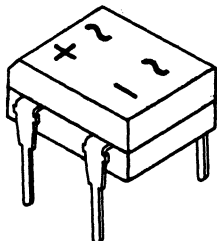


Fig. 3 DUAL-IN-LINE Bridge

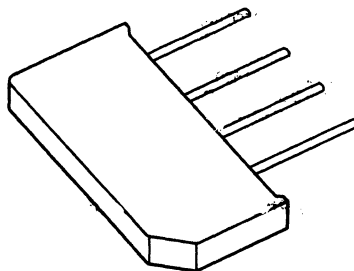


Fig. 2 IN-LINE Bridge

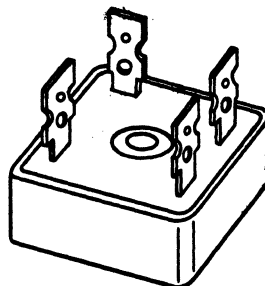


Fig. 4 Chassis Mounted Bridge

Dual-In-Line Single Phase Bridge Rectifiers 1.0 AMPERE

Types:
DF005M thru DF10M
RDF005M thru RDF08M
(Fast Recovery)

- Features:**
- Surge Overload Rating 50 Amperes Peak
 - Ideal for Printed Circuit Board
 - Reliable Low Cost Construction
 - Tinned Copper Leads Solderable to MIL-STD-202 Method 208
 - Glass Passivated Junction
 - Plastic Package has Underwriters Laboratory Classification 94V-0

Miniature Single-Phase Bridge Rectifiers 1.5 to 2 AMPERES

Types:
W005M thru W10M
2W005M thru 2W10M

- Features:**
- Surge Overload Rating 50 and 60 Amperes Peak
 - Ideal for Printed Circuit Board
 - Reliable Low Cost Construction
 - Leads are Solderable to MIL-STD-202 Method 208
 - Available in Avalanche and Fast Recovery Characteristics
 - Plastic Package has Underwriters Laboratory Classification 94V-0

In-Line Single Phase Bridge Rectifiers 1.5 to 8.0 AMPERES

Types:
KBP005 thru KBP10
2KBP005 thru 2KBP10
KBU4A thru KBU4M
KBL005 thru KBL10
KBU6A thru KBU6M
KBU8A thru KBU8M

- Features:**
- Surge Overload Rating from 50 to 300 Amperes Peak
 - Ideal for Printed Circuit Board
 - Reliable Low Cost Construction utilizing molded Plastic
 - Available in Avalanche and Fast Recovery Characteristics
 - Leads are Solderable to MIL-STD-202 Method 208
 - Plastic Package has Underwriters Laboratory Classification 94V-0

High Current Single Phase Bridge Rectifiers 3.0 to 35 AMPERES

Types:
KBPC1005 thru KBPC110
SUPERECTIFIER
Construction
KBPC6005 thru KBPC610
KBPC8005 thru KBPC810
SUPERECTIFIER
Construction
KBPC10-005 thru KBPC10 -10
KBPC15-005 thru KBPC15 -10
KBPC25-005 thru KBPC25 -10
KBPC35-005 thru KBPC35 -10
GIB2500 thru GIB2510
GIB3500 thru GIB3510

- Features:**
- High Capability of Surge Overload Rating
 - Insulated Case for Maximum Heat Dissipation
 - Low Forward Voltage Drop
 - Tinned Copper Leads or Faston Terminals
 - Simple Installation thru Screw hole for NBR6 Screw
 - Available in Avalanche and Fast Recovery Characteristics
 - For all kinds of DC Motors
 - Leads or Terminals are Solderable to MIL-STD-202 Method 208
 - Plastic Package has Underwriters Laboratory Classification 94V-0

I_o (A)	1.0	1.5	1.5	1.0	2.0	2.0	2.0	4.0	4.0	6.0	8.0	I_o (A)
@ T_A (°C)	40	25	50	75	25	50	55	50	65	40	100T _C	@ T_A (°C)
SURGE (A)	50	50	50	30	60	60	60	200	200	250	300	SURGE (A)
$V_R = 50$ (V)	DF005M*	W005M*	KBP005*	3N246	2W005M*	2KBP005*	3N253	KBL005*	KBU4A*	KBU6A*	KBU8A*	$V_R = 50$ (V)
$V_R = 100$ (V)	DF011M*	W01M*	KBP01*	3N247	2W01M*	2KBP01*	3N254	KBL01*	KBU4B*	KBU6B*	KBU8B*	$V_R = 100$ (V)
$V_R = 200$ (V)	DF02M*	W02M*	KBP02*	3N248	2W02M*	2KBP02*	3N255	KBL02*	KBU4D*	KBU6D*	KBU8D*	$V_R = 200$ (V)
$V_R = 400$ (V)	DF04M*	W04M*	KBP04*	3N249	2W04M*	2KBP04*	3N256	KBL04*	KBU4G*	KBU6G*	KBU8G*	$V_R = 400$ (V)
$V_R = 600$ (V)	DF06M*	W06M*	KBP06*	3N250	2W06M*	2KBP06*	3N257	KBL06*	KBU4J*	KBU6J*	KBU8J*	$V_R = 600$ (V)
$V_R = 800$ (V)	DF08M*	W08M*	KBP08*	3N251	2W08M*	2KBP08*	3N258	KBL08*	KBU4K*	KBU6K	KBU8K	$V_R = 800$ (V)
$V_R = 1000$ (V)	DF10M*	W10M*	KBP10*	3N252	2W10M*	2KBP10*	3N259	KBL10*	KBU4M*	KBU6M	KBU8M	$V_R = 1000$ (V)
Page	318	320	324	326	328	330	332	338	340	342	350	Page

*Also available in Avalanche and Fast Recovery Characteristics

I_o (A)	3.0	6.0	8.0	10	15	25	25	35	35	I_o (A)
@ T_A (°C)	50	100	50	55	55	55	55	55	55	@ T_A (°C)
SURGE (A)	50	200	125	200	300	300	400	400	400	SURGE (A)
$V_R = 50$ (V)	*KBPC1005■	*KBPC6005	*KBPC8005■	*KBPC10-005	*KBPC25-005	*KBPC25-005	*GIB2500	*KBPC35-005	*GIB3500	$V_R = 50$ (V)
$V_R = 100$ (V)	*KBPC101■	*KBPC601	*KBPC801■	*KBPC10-01	*KBPC15-01	*KBPC25-01	*GIB2501	*KBPC35-01	*GIB3501	$V_R = 100$ (V)
$V_R = 200$ (V)	*KBPC102■	*KBPC602	*KBPC802■	*KBPC10-02	*KBPC15-02	*KBPC25-02	*GIB2502	*KBPC35-02	*GIB3502	$V_R = 200$ (V)
$V_R = 400$ (V)	*KBPC104■	*KBPC604	*KBPC804■	*KBPC10-04	*KBPC15-04	*KBPC25-04	*GIB2504	*KBPC35-04	*GIB3504	$V_R = 400$ (V)
$V_R = 600$ (V)	*KBPC106■	*KBPC606	*KBPC806■	*KBPC10-06	*KBPC15-06	*KBPC25-06	*GIB2506	*KBPC35-06	*GIB3506	$V_R = 600$ (V)
$V_R = 800$ (V)	*KBPC108■	*KBPC608	*KBPC808■	*KBPC10-08	*KBPC15-08	*KBPC25-08	*GIB2508	*KBPC35-08	*GIB3508	$V_R = 800$ (V)
$V_R = 1000$ (V)	*KBPC110■	*KBPC610	*KBPC810■	*KBPC10-10	*KBPC15-10	*KBPC25-10	*GIB2510	*KBPC35-10	*GIB3510	$V_R = 1000$ (V)
Page	334	344	348	352	352	352	356	352	358	Page

■ SUPERRECTIFIER construction

*Also available in Avalanche and Fast Recovery Characteristics

DF-M SERIES

MINIATURE GLASS PASSIVATED SINGLE-PHASE SILICON BRIDGE

GENERAL
INSTRUMENT



FEATURES

- Plastic material used carries Underwriters Laboratory recognition.
- Glass passivated junctions.
- Surge overload rating—50 amperes peak.
- Ideal for printed circuit board.
- Exceeds environmental standards of MIL-STD-19500.
- High Temperature soldering guaranteed 300°C/ 10 seconds at 5 lbs., (2.3kg) tension.

MECHANICAL DATA

Case: Reliable low cost construction utilizing molded plastic technique results in inexpensive product

Terminals: Lead solderable per MIL-STD-202. Method 208

Polarity: Polarity symbols molded on body

Mounting Position: Any

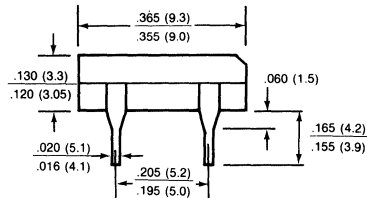
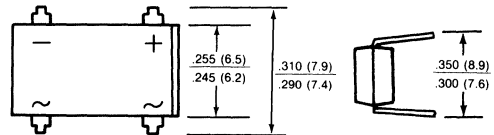
Weight: 0.04 ounce 1.0 gram

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

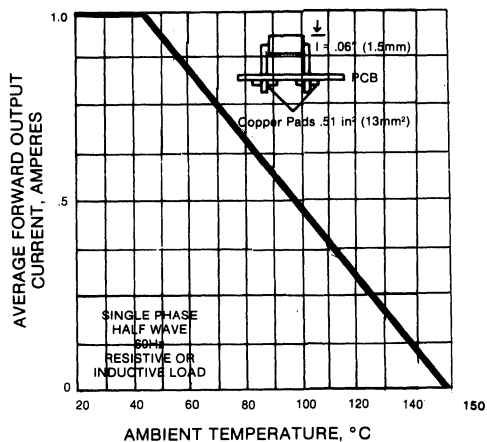
	DF005M	DF01M	DF02M	DF04M	DF06M	DF08M	DF10M	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Output Rectified Current at $T_A = 40^\circ\text{C}$	1.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0							A
I^2t Rating for fusing ($t < 8.35\text{ms}$)	10.0							A ² t
Maximum Instantaneous Forward Voltage Drop per Bridge Element at 1.0A	1.1							V
Maximum Reverse Current at rated DC Blocking Voltage per element	10 0.5							μA mA
Typical Junction Capacitance per element (Note 1)	25							pF
Operating Temperature Range T_J	-55 to +150							°C
Storage Temperature Range T_{STG}	-55 to +150							°C

NOTE:

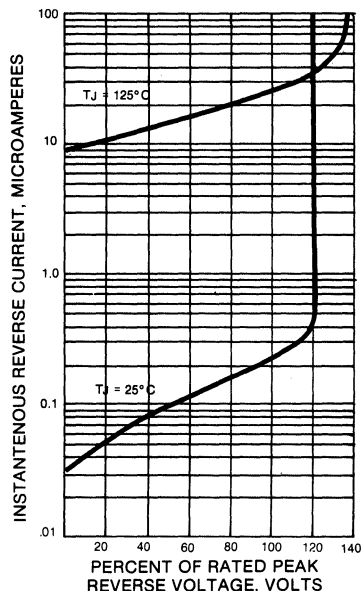
1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.

**RATING AND CHARACTERISTIC CURVES
DF-M SERIES**

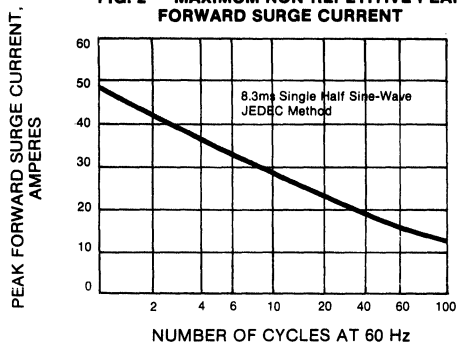
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



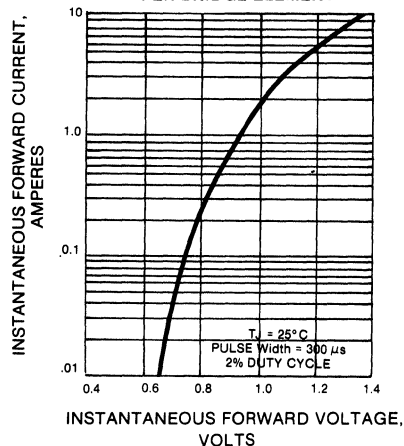
**FIG. 3 — TYPICAL REVERSE
CHARACTERISTICS
PER BRIDGE ELEMENT**



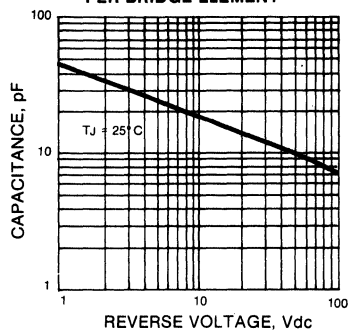
**FIG. 2 — MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT**



**FIG. 4 — TYPICAL FORWARD
CHARACTERISTICS
PER BRIDGE ELEMENT**



**FIG. 5 — TYPICAL JUNCTION CAPACITANCE
PER BRIDGE ELEMENT**



W005M THRU W10M SERIES

1.5 AMPERE MINIATURE SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

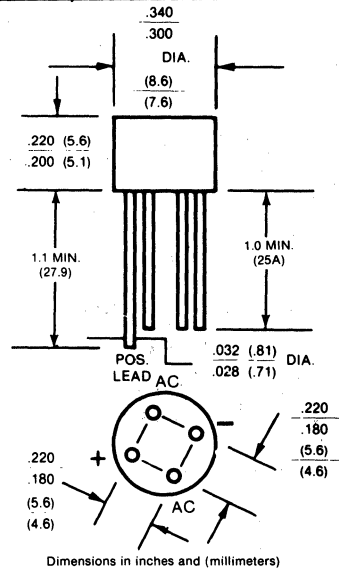
- Plastic material used carried Underwriters Laboratory recognition.
- High case dielectric strength
- Typical I_a less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- Ideal for printed circuit board
- High temperature soldering guaranteed: $250^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Reliable low cost construction utilizing molded plastic technique
 Terminals: Leads solderable per MIL-STD-202, Method 208
 Mounting Position: Any
 Weight: 0.05 ounce, 1.3 grams

VOLTAGE
50 to 1000 Volts PRV

CURRENT
1.5 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

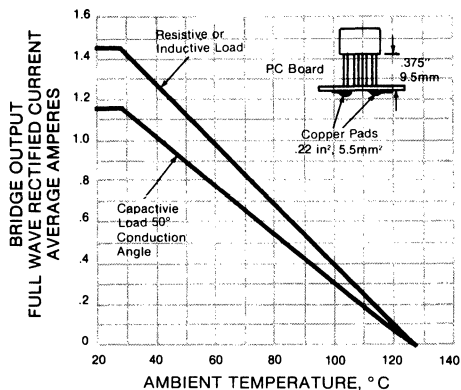
Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	W005M	W01M	W02M	W04M	W06M	W08M	W10M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375", 9.5mm lead lengths at $T_A = 25^\circ C$	1.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0							A
I^2t Rating for fusing ($t \leq .00835$)	5.0							A ² s
Maximum Instantaneous Forward Voltage Drop per element at 1.0A	1.0							V
Maximum Reverse Current at Rated DC Blocking Voltage per element	10.0 1.0							μA mA
Typical Junction Capacitance per Bridge element	24.0							pF
Operating Temperature Range T_A	-55 to +125							$^\circ C$
Storage Temperature Range T_{STG}	-55 to +150							$^\circ C$

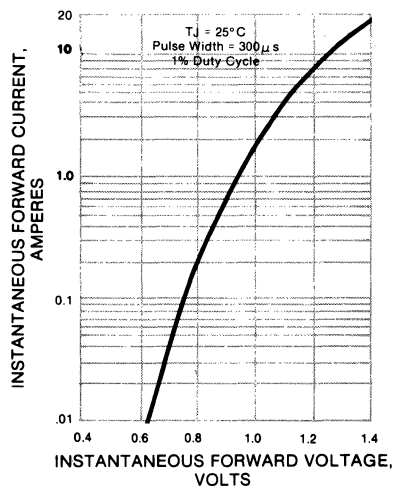
NOTE: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES W005M THRU W10M

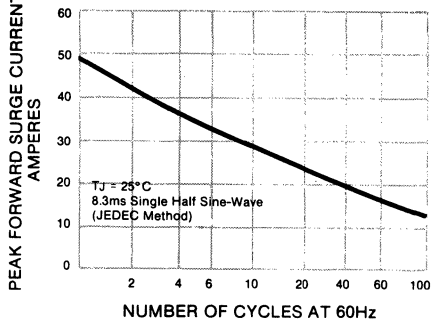
**FIG. 1 — DERATING CURVE
OUTPUT RECTIFIED CURRENT**



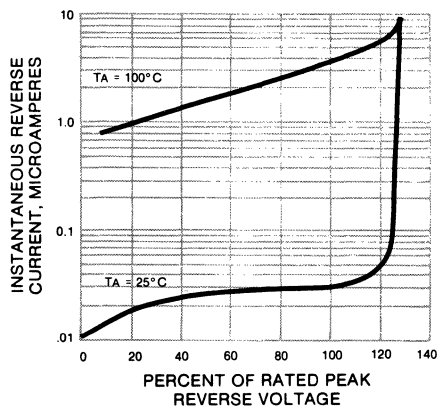
**FIG. 3 — TYPICAL FORWARD
CHARACTERISTICS**



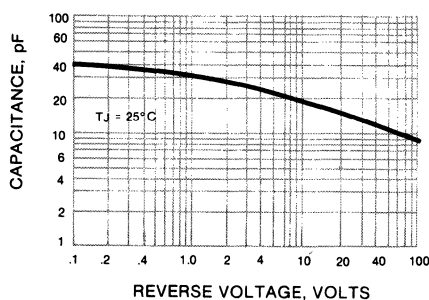
**FIG. 2 — MAXIMUM NON-REPETITIVE
PEAK FORWARD CURRENT**



**FIG. 4 — TYPICAL
REVERSE CHARACTERISTICS**



**FIG. 5 — TYPICAL JUNCTION CAPACITANCE
PER BRIDGE ELEMENT**



AWO-M SERIES

MINIATURE CONTROLLED AVALANCHE SILICON BRIDGE

GENERAL
INSTRUMENT



FEATURES

- Plastic material used carries Underwriters Laboratory recognition
- High case dielectric strength
- Typical I_n less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- Ideal for printed circuit board
- Controlled Avalanche Series
- 200 Watts Avalanche Power Dissipation for $100 \mu s$
- High temperature soldering guaranteed: $250^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

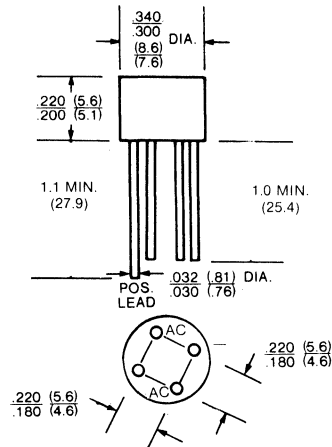
Case: Reliable low cost construction utilizing molded plastic technique
 Terminals: Leads solderable per MIL-STD-202, Method 206
 Mounting Position: Any
 Weight: 0.05 ounce, 1.3 grams

VOLTAGE RANGE

200 to 800 Volts

CURRENT

1.5 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

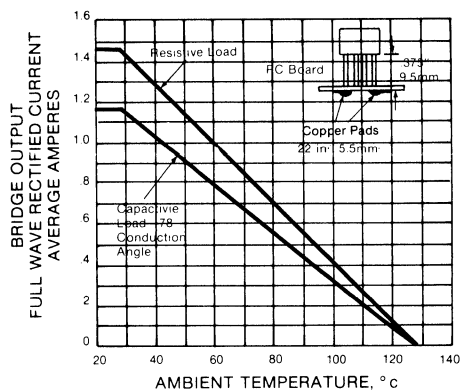
Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

	AWO2M	AWO4M	AWO6M	AWO8M	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Bridge Input Voltage	140	280	420	560	V
Maximum DC Blocking Voltage	200	400	600	800	V
Minimum Avalanche Breakdown Voltage at $100 \mu A$	250	450	650	850	V
Maximum Avalanche Breakdown Voltage at $100 \mu A$	700	900	1100	1300	V
Maximum Average Forward Output Current .375", 9.5mm lead lengths at $T_A = 25^\circ C$	1.5				A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0				A
I^2t Rating for fusing ($t \leq .00835$)	5.0				A ² t
Maximum Instantaneous Forward Voltage Drop per Bridge Element at 1.0A	1.0				V
Maximum Reverse DC Current at $T_A = 25^\circ C$ Rated DC Blocking Voltage $T_A = 100^\circ C$	10.0 1.0				μA mA
Typical Junction Capacitance (Note 1)	24.0				pF
Operating Temperature Range T_A	-55 to +125				$^\circ C$
Storage Temperature Range T_{STG}	-55 to +150				$^\circ C$

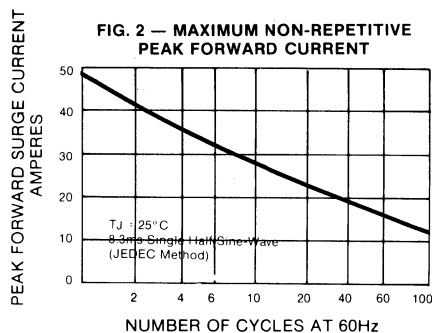
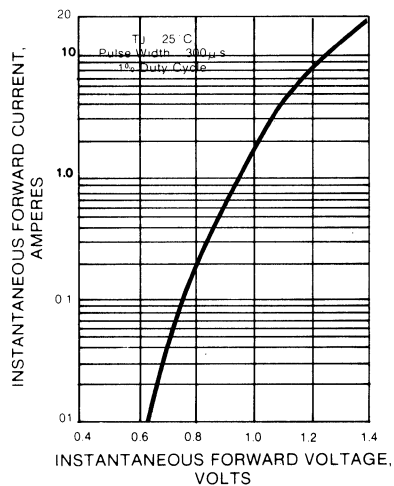
NOTE: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.

RATINGS AND CHARACTERISTIC CURVES AWO-M SERIES

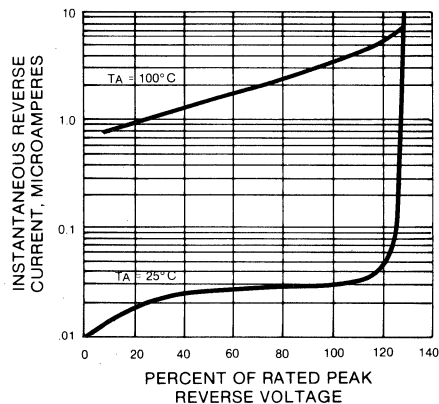
**FIG. 1 — DERATING CURVE
OUTPUT RECTIFIED CURRENT**



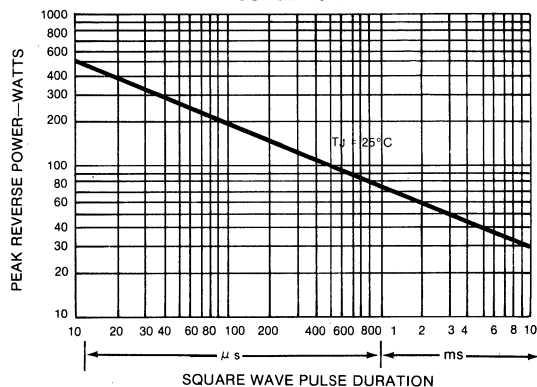
**FIG. 3 — TYPICAL FORWARD
CHARACTERISTICS**



**FIG. 4 — TYPICAL
REVERSE CHARACTERISTICS**



**FIG. 5 — MAXIMUM NON-REPETITIVE AVALANCHE
SURGE POWER**



KBP SERIES

MINIATURE SINGLE PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**

FEATURES

- Plastic material used carries Underwriters Laboratory recognition.
- Ideal for printed circuit board.
- Typical I_R less than $1\mu A$.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL

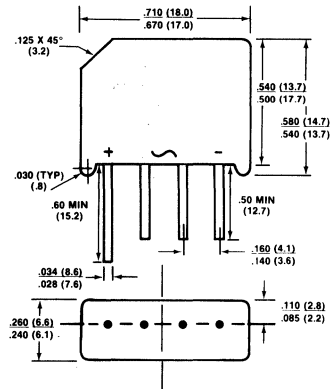
Case: Reliable low cost construction utilizing molded plastic technique.

Terminals: Leads solderable per MIL-STD-202, Method 208

Mounting position: Any

Weight: 0.13 ounce, 3.6 grams

VOLTAGE RANGE
50 to 1000 Volts PRV
CURRENT
1.5 Amperes



Dimensions in inches and (millimeters)

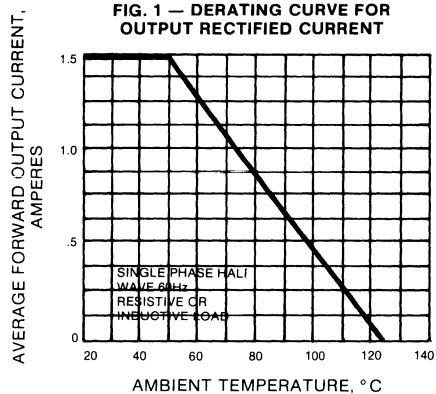
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

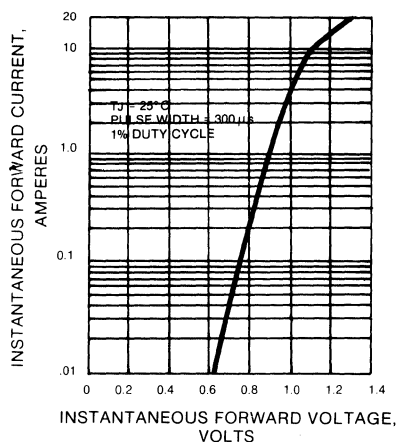
	KBP005	KBP01	KBP02	KBP04	KBP06	KBP08	KBP10	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Output Current at $50^\circ T_A$	1.5							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	50							A
Maximum Instantaneous Forward Voltage Drop per Bridge Element at 1.0A	1.0							V
Maximum Reverse DC Current at Rated DC Blocking Voltage (Total Bridge)	10.0 1.0							μA mA
Operating Temperature Range T_A	-55 to $+125$							$^\circ C$
Storage Temperature T_{STG}	-55 to $+150$							$^\circ C$

RATINGS AND CHARACTERISTIC CURVES
KBP SERIES

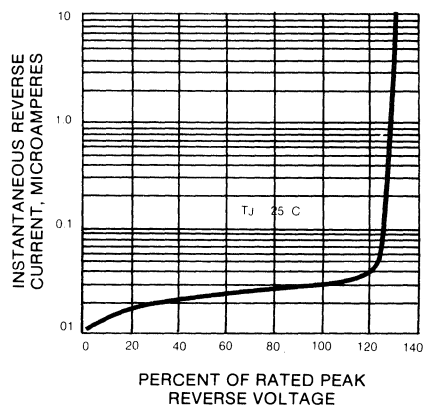
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



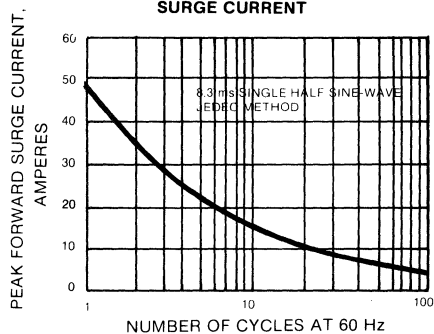
**FIG. 2 — TYPICAL FORWARD
CHARACTERISTICS**



**FIG. 3 — TYPICAL REVERSE
CHARACTERISTICS**



**FIG. 4 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**



3N246 thru 3N252 SERIES

MINIATURE SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- Built-In Printed Circuit Board Stand-Offs.
- Plastic material used carries Underwriters Laboratory recognition.
- High case dielectric strength.
- Typical I_R less than $1\mu A$.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3 kg) tension.

MECHANICAL DATA

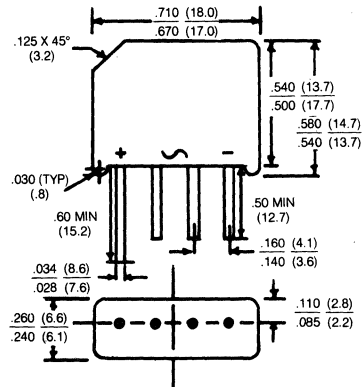
Case: Reliable low cost construction utilizing molded plastic technique.
Terminals: Leads solderable per MIL-STD-202, Method 208.
Mounting Position: Any
Weight: 0.13 ounce, 3.6 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Amperes



Dimensions in inches and (millimeters)

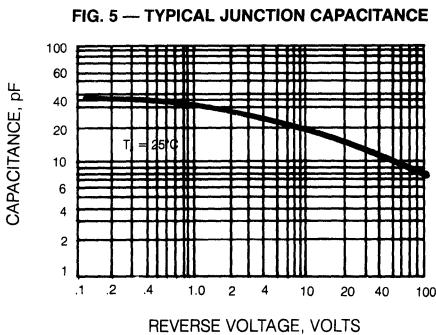
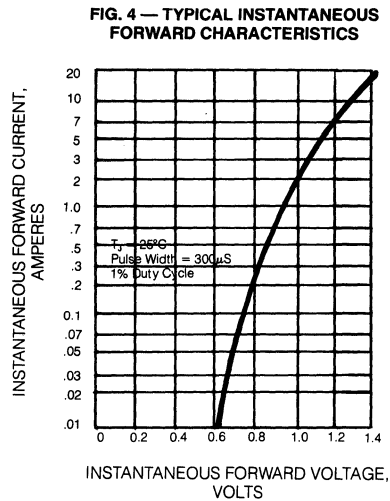
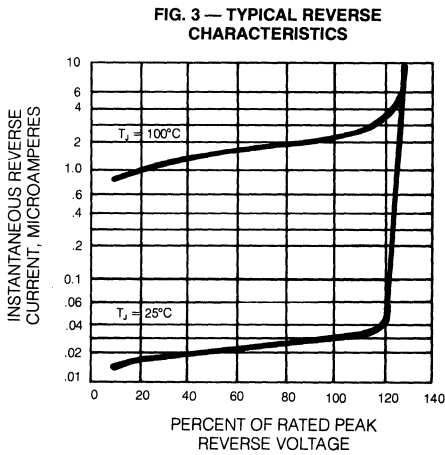
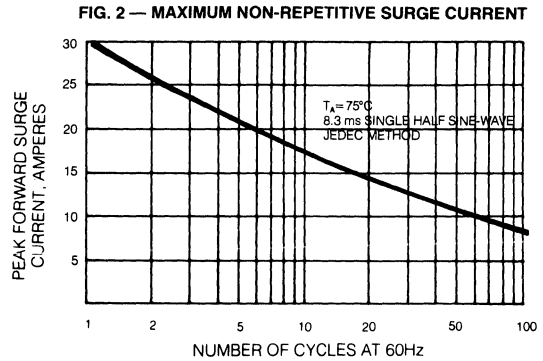
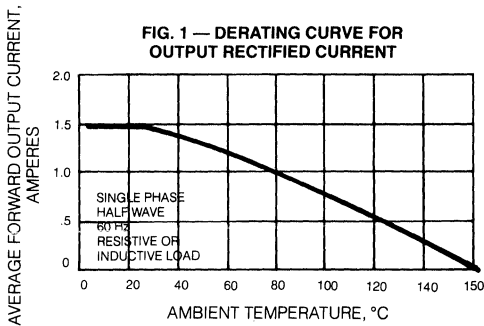
MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

	3N246	3N247	3N248	3N249	3N250	3N251	3N252	Units
*Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
*Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
*Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
*Maximum Average Forward Rectified Output Current at $T_A = 75^\circ C$	1.0							A
*Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load at $T_A = 75^\circ C$ (JEDEC method)	30							A
*Maximum Instantaneous Forward Voltage Drop per Bridge Element at 1.57A	1.3							V
Maximum Reverse DC Current at Rated DC Blocking Voltage	10.0							μA
	1.0							mA
Typical Junction Capacitance per Bridge Element (Note 1)	24							pF
*Operating and Storage Temperature Range T_J, T_{STG}	-55 to +150°C							°C

NOTES: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
*JEDEC registered values

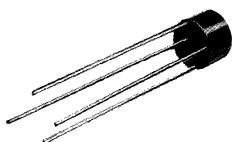
RATINGS AND CHARACTERISTIC CURVES
3N246 Thru 3N252



2W005M thru 2W10M SERIES

MINIATURE SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- Ratings to 1000V PRV
- High surge current capability
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique results in inexpensive product
- High temperature soldering guaranteed: 300°C/ 10 seconds/.375", (9.5mm) lead length/5 lbs. (2.3 kg) tension

MECHANICAL DATA

Case: Void-free plastic package

Leads: Solderable per MIL-STD-202, method 208

Mounting Position: Any

Handling precautions: None

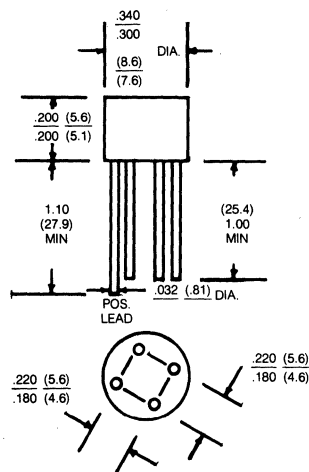
Weight: 0.05 ounce, 1.3 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

2.0 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Inductive or Resistive Load, 60 Hz.

All temperatures are 25°C ambient unless otherwise specified.

For capacitive load derate current by 20%.

	2W005M	2W01M	2W02M	2W04M	2W06M	2W08M	2W10M	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current .375" (9.5mm) Lead Lengths at $T_A = 25^\circ\text{C}$	2.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	60							A
I ² t Rating for fusing ($t < .00835$)	7.5							A ² t
Maximum Instantaneous Forward Voltage per Bridge Element at 2.0A	1.1							V
Maximum Reverse DC Current at Rated $T_A = 25^\circ\text{C}$ DC Blocking Voltage per Bridge Element at $T_A = 100^\circ\text{C}$	10.0 1.0							μA mA
Typical Junction Capacitance per Bridge Element (Note 1)	30							pF
Operating Temperature Range T_A	-55 to 125							°C
Storage Temperature Range T_{STG}	-55 to 150							°C

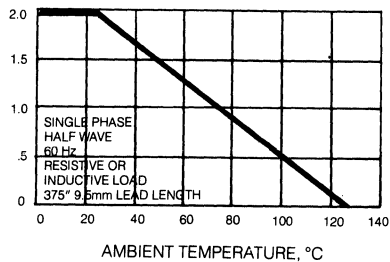
NOTES

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 V_{DC}

RATINGS AND CHARACTERISTIC CURVES 2W-M SERIES

AVERAGE FORWARD OUTPUT CURRENT,
AMPERES

FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT



PEAK FORWARD SURGE CURRENT,
AMPERES

FIG. 2 — MAXIMUM NON-REPETITIVE PEAK
SURGE CURRENT

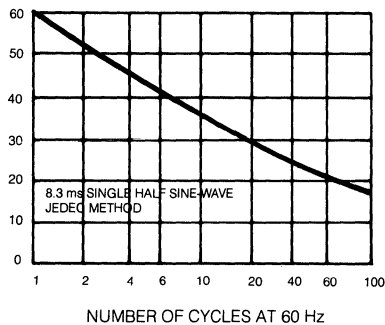


FIG. 3 — TYPICAL REVERSE
CHARACTERISTICS

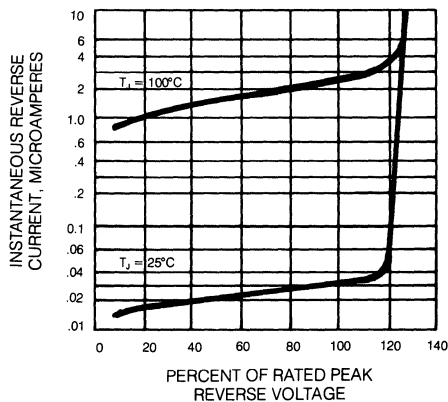


FIG. 4 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

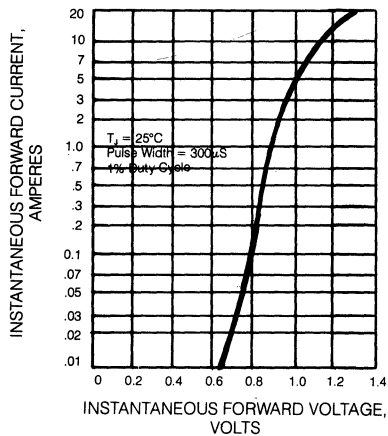
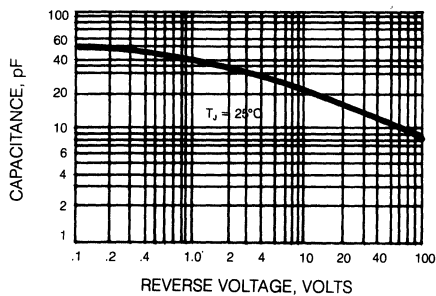


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



2KBP SERIES

MINIATURE SINGLE PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



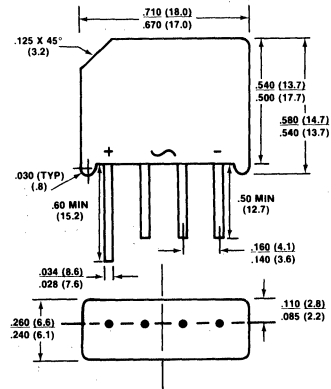
FEATURES

- Plastic material used carries Underwriters Laboratory recognition.
- Ideal for printed circuit board.
- Typical I_R less than $1\mu A$.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL

Case: Reliable low cost construction utilizing molded plastic technique.
Terminals: Leads solderable per MIL-STD-202, Methode 208.
Mounting position: Any
Weight: 0.13 ounce, 3.6 grams

VOLTAGE RANGE
50 to 1000 Volts PRV
CURRENT
2.0 Amperes



Dimensions in inches and (millimeters)

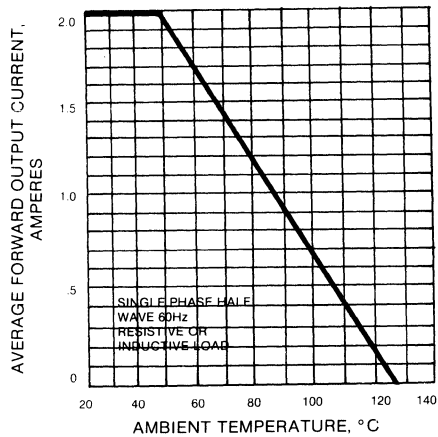
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

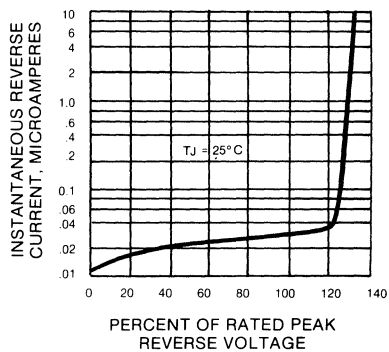
	2KBP005	2KBP01	2KBP02	2KBP04	2KBP06	2KBP08	2KBP10	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Output Current at $T_A = 50^\circ C$	2.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load	60							A
Maximum Instantaneous Forward Voltage Drop per Bridge Element at 1.0 ADC	1.0							V
Maximum Reverse DC Current at Rated DC Blocking Voltage (Total Bridge)	10.0 1.0							μA mA
Operating Temperature Range T_J	-55 to +125							$^\circ C$
Storage Temperature Range T_{STG}	-55 to +150							$^\circ C$

RATING AND CHARACTERISTIC CURVES
2KBP SERIES

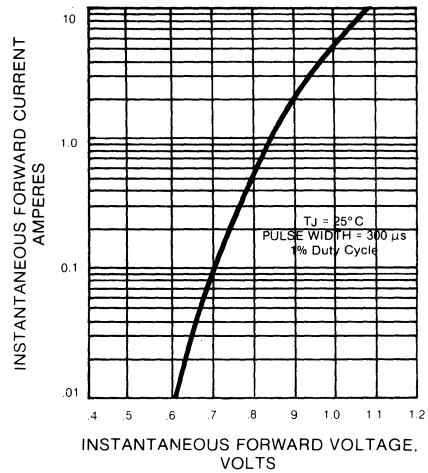
**FIG. 1 — DERATING CURVE FOR
RECTIFIED OUTPUT CURRENT**



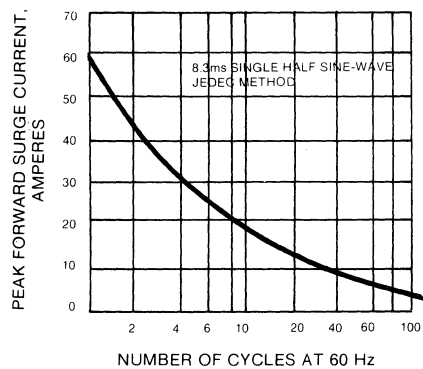
**FIG. 2 — TYPICAL REVERSE
CHARACTERISTICS
PER BRIDGE ELEMENT**



**FIG. 3 — TYPICAL FORWARD
CHARACTERISTICS
PER BRIDGE ELEMENT**



**FIG. 4 — MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT**



3N253 thru 3N259 SERIES

MINIATURE SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- Built-In Printed Circuit Board stand-offs.
- Plastic material used carries Underwriters Laboratory recognition.
- High case dielectric strength.
- Typical I_R less than $1\mu A$.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3 kg) tension.

MECHANICAL DATA

Case: Reliable low cost construction utilizing molded plastic technique.

Terminals: Leads solderable per MIL-STD-202, Method 208.

Mounting Position: Any

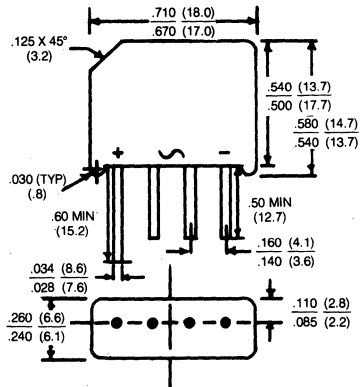
Weight: 0.13 ounce, 3.6 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

2.0 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

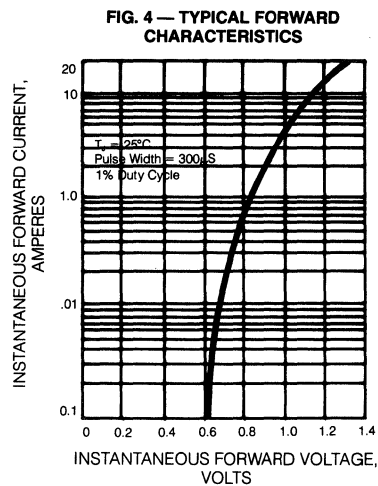
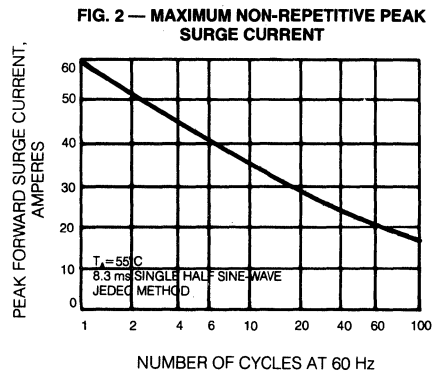
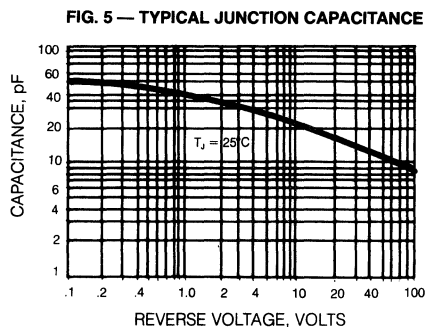
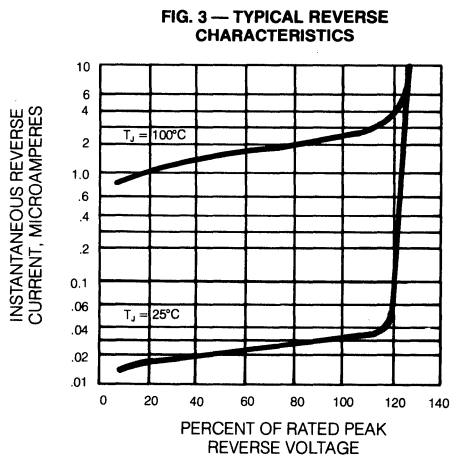
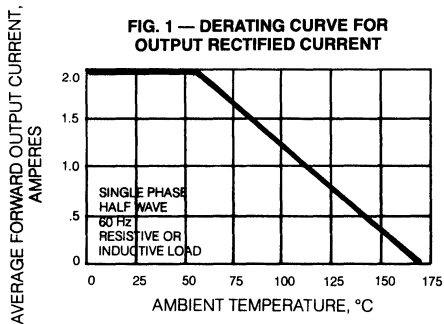
Ratings at $25^\circ C$ ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

	3N253	3N254	3N255	3N256	3N257	3N258	3N259	Units
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
* Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
* Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
* Maximum Average Forward Rectified Output Current at $T_A = 55^\circ C$	2.0							A
* Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load at $T_A = 55^\circ C$ (JEDEC method)	60							A
* Maximum Instantaneous Forward Voltage Drop per Bridge Element at 3.14A	1.1							V
Maximum Reverse DC Current at Rated DC Blocking Voltage	10.0							μA
	1.0							mA
Typical Junction Capacitance per Bridge Element (Note 1)	30							pF
* Operating and Storage Temperature Range T_J, T_{STG}	-55 to $+165^\circ C$							$^\circ C$

NOTES: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

* JEDEC registered values

RATING AND CHARACTERISTIC CURVES
3N253 Thru 3N259



KBPC1 SERIES

SINGLE PHASE SILICON BRIDGE

GENERAL
INSTRUMENT



FEATURES

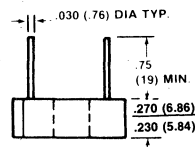
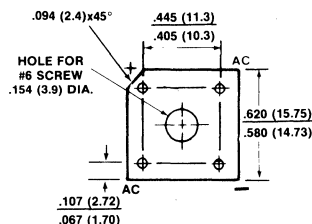
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed internal rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Typical I_R less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $250^\circ C/10$ seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Void-free plastic package
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Mounting: Thru hole for #6 screw
Mounting Position: Any
Weight: 0.2 ounces, 5.5 gram

VOLTAGE RANGE
50 to 1000 Volts PRV

CURRENT
3.0 Amperes



Polarity shown on side of case;
positive lead by beveled corner.

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	KBPC 1005	KBPC 101	KBPC 102	KBPC 104	KBPC 106	KBPC 108	KBPC 110	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Output Current at T _C = 50°C (Note 1) T _A = 50°C (Note 2)	3.0 2.0							A A
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method)	50.0							A
Maximum Instantaneous Forward Voltage Drop per element at 1.5A	1.1							V
Typical Junction Capacitance per Element (Note 3)	20							pF
Maximum Reverse Leakage at rated DC Blocking Voltage per element T _A = 25°C T _A = 100°C	10.0 1.0							μ A mA
Typical Thermal Resistance R _{θJA} (Note 1)	22							°C/W
Operating Temperature Range T _C	-55 to +150							°C
Storage Temperature Range T _{STG}	-55 to +150							°C

NOTES:

1. Unit mounted on 2.0" sq. by .06" thick (50mm² by 1.5mm) copper plate.
2. Unit mounted on P.C. board .375", (9.5mm) lead lengths.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES **KBPC1 SERIES**

FIG. 1 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

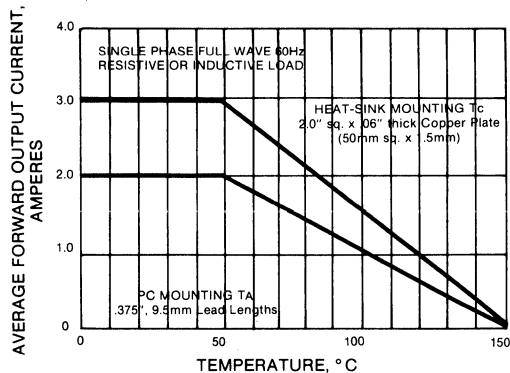


FIG. 2 — MAXIMUM NON-REPETITIVE SURGE CURRENT

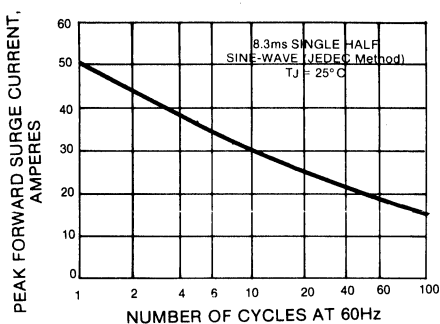


FIG. 3 — TYPICAL FORWARD CHARACTERISTICS

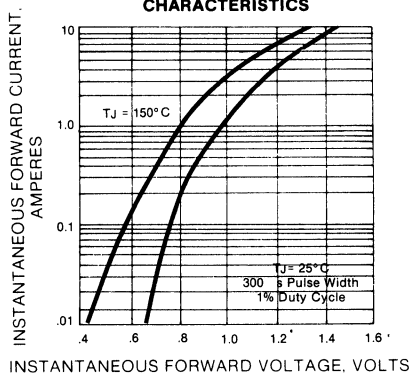


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

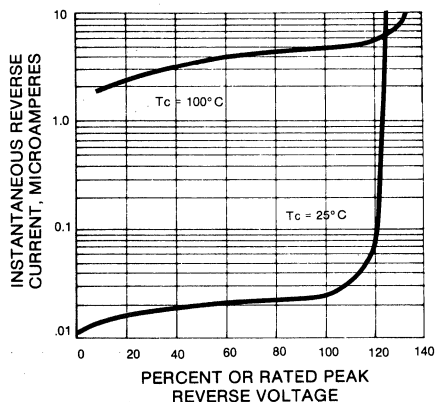


FIG. 5 — TYPICAL JUNCTION CAPACITANCE PER ELEMENT

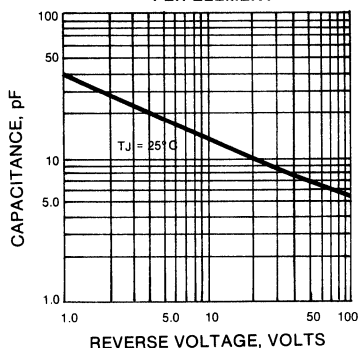
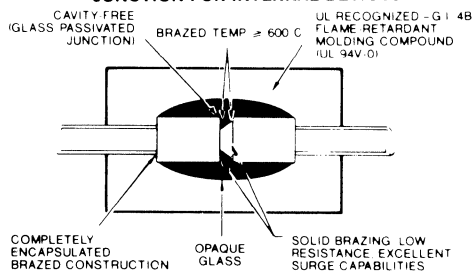


FIG. 6 — SUPERECTIFIER JUNCTION FOR INTERNAL DEVICES



CONTROLLED AVALANCHE SILICON BRIDGE

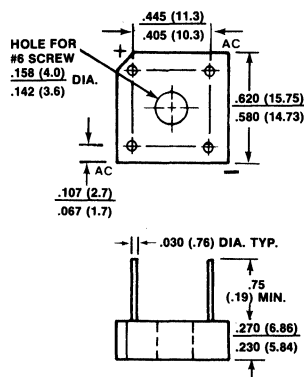
GENERAL INSTRUMENT



- High temperature metallurgically bonded—no compression contacts as found in diode-constructed internal rectifiers.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junctions in molded epoxy case
- Controlled avalanche series
- 200 watt avalanche power dissipation for 100 μ s
- Typical I_R less than 1 μ A
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 300° C/10 seconds/.375" (9.5mm) lead length at 5 lbs. (2.3kg) tension

Weight: 0.012 ounce, 3.5 gram

3.0 Amperes



Dimensions in inches and (millimeters)

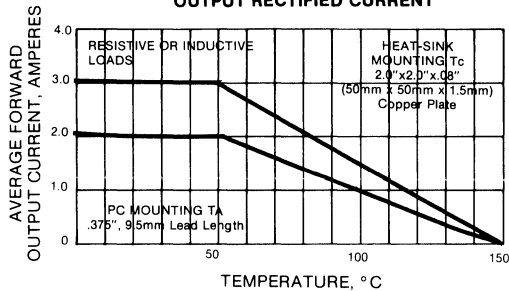
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	AKBPC102	AKBPC104	AKBPC106	AKBPC108	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Bridge Input Voltage	140	280	420	560	V
Minimum Avalanche Breakdown Voltage at 50 μ A	250	450	650	850	V
Maximum Avalanche Breakdown Voltage at 50 μ A	700	900	1100	1300	V
Maximum average Forward Rectified Output Current at:	T_c = 50° C (Note 1) T_A = 50° C (Note 2)				A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC)	50				A
Maximum Instantaneous Forward Voltage Drop per element at 1.5A	1.1				V
Maximum Reverse Current at Rated DC Blocking Voltage per element	T_A = 25° C T_C = 100° C				μ A μ A
Operating Temperature Range T _c	-55 to +150				°C
Storage Temperature Range T _{stg}	-55 to +150				°C

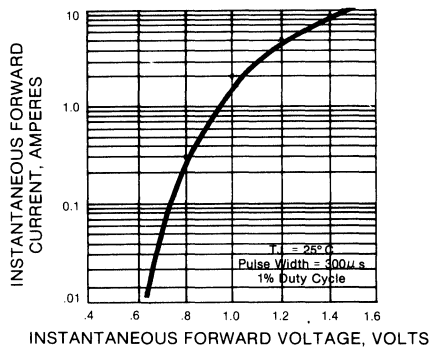
NOTES:
1. Unit mounted on 2" sq. x .06" thick (50mm² x 1.5mm) copper plate.
2. Unit mounted on P.C. board with .375", 9.5mm lead lengths.

RATINGS AND CHARACTERISTIC CURVES
AKBPC1 SERIES

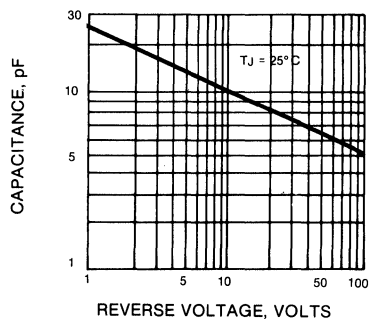
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



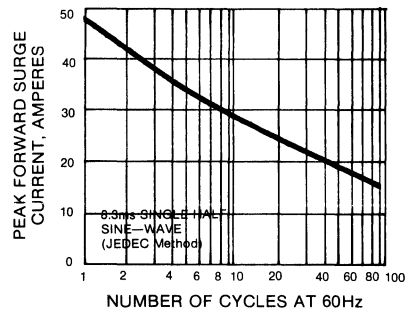
**FIG. 3 — TYPICAL FORWARD CHARACTERISTICS
PER ELEMENT**



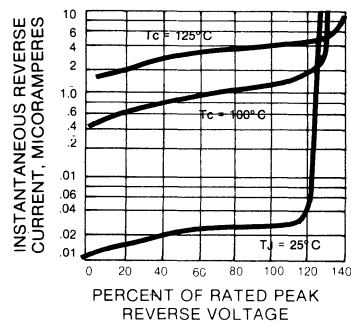
**FIG. 5 — TYPICAL JUNCTION CAPACITANCE
PER ELEMENT**



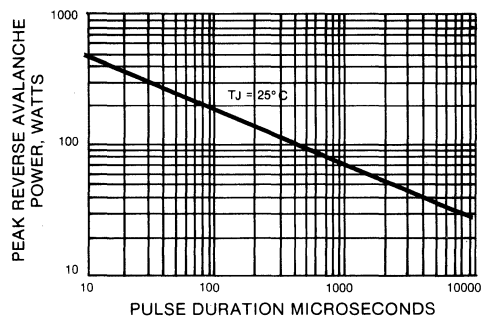
**FIG. 2 — MAXIMUM NON-REPETITIVE
PEAK FORWARD SURGE CURRENT**



**FIG. 4 - TYPICAL REVERSE
CHARACTERISTICS**



**FIG. 6 — MAXIMUM NON-REPETITIVE REVERSE
AVALANCHE POWER**



KBL SERIES

SILICON SINGLE-PHASE BRIDGE RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

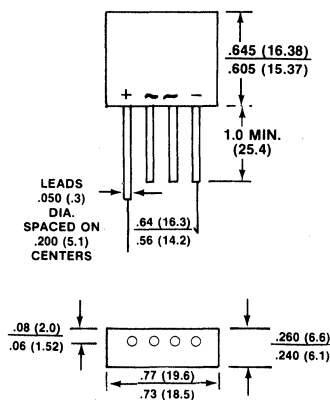
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Surge overload rating: 200 amperes peak
- Mounting position: Any
- Leads: Solderable per MIL-STD-202, Method 208
- Weight: 0.2 ounce, 5.6 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

4.0 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

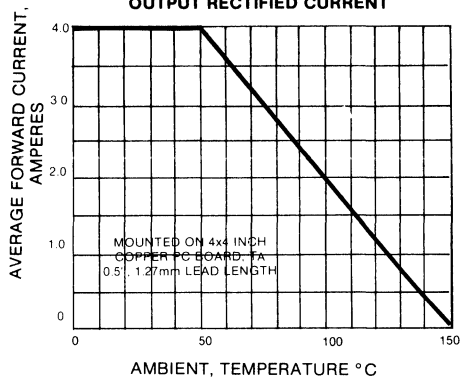
	KBL005	KBL01	KBL02	KBL04	KBL06	KBL08	KBL10	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Output Current at $T_A = 50^\circ\text{C}$	4.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200							A
Maximum Instantaneous Forward Voltage Drop per Bridge Element at 4.0A	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$ 10.0 1.0							μA mA
Maximum Thermal Resistance $R_{\theta JC}$ (Note 2)	20							$^\circ\text{C/W}$
Operating and Storage Temperature Range, T_J , T_{STG}	-55 to +150							$^\circ\text{C}$

NOTES:

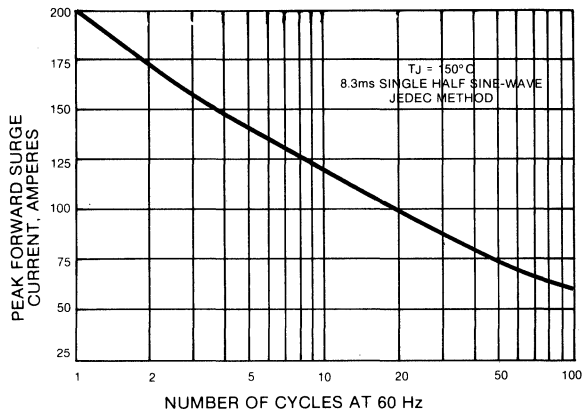
1. Mounting conditions, 0.5" (1.27mm) lead length.
2. Thermal Resistance Junction to case per diode with .5" (1.27mm) lead lengths.

RATINGS AND CHARACTERISTIC CURVES **KBL SERIES**

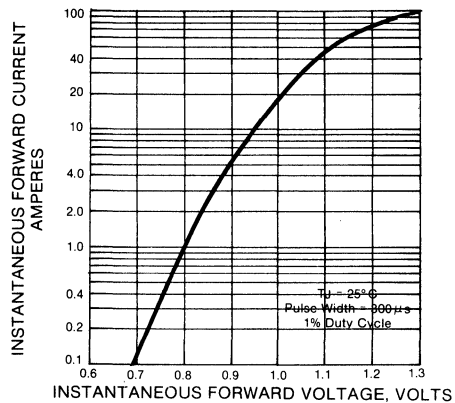
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



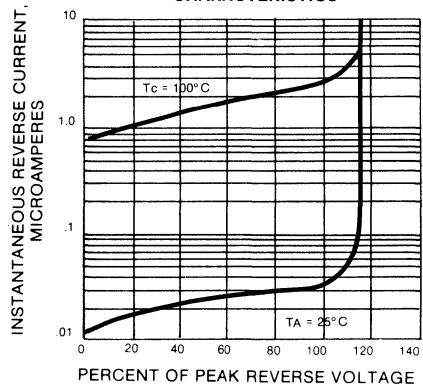
**FIG. 3 — MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT**



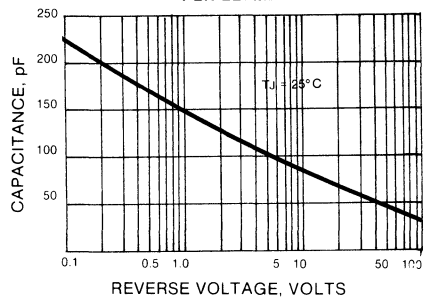
**FIG. 2 — TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS**



**FIG. 4 — TYPICAL REVERSE
CHARACTERISTICS**



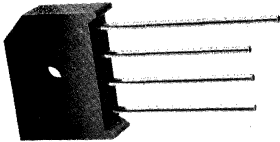
**FIG. 5 — TYPICAL JUNCTION CAPACITANCE
PER ELEMENT**



KBU4 SERIES

SILICON SINGLE-PHASE BRIDGE RECTIFIERS

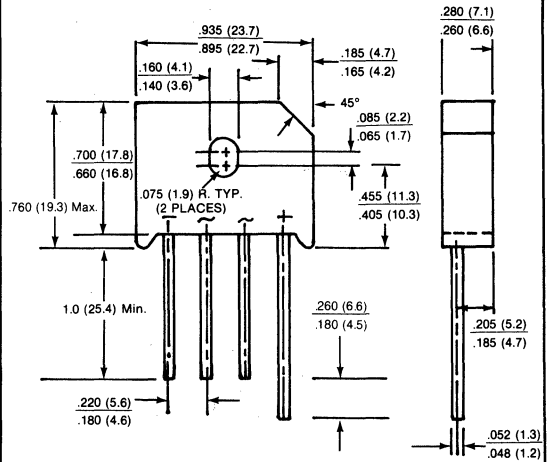
GENERAL
INSTRUMENT



FEATURES

- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- Surge overload rating: 200 amperes peak
- Mounting position: Any
- Weight: 0.3 ounces, 8.0 grams
- Mounting Torque: 5 In. lb. max

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
4.0 Amperes



All dimension in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless specified. Resistive or inductive load, 60 Hz.
For capacitance load derate current by 20%.

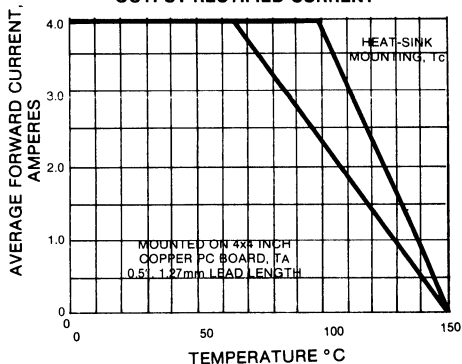
	KBU4A	KBU4B	KBU4D	KBU4G	KBU4J	KBU4K	KBU4M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current at	4.0							A
T _c = 100°C	4.0							A
T _A = 65°C								
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200							A
Maximum Instantaneous Forward Voltage Drop per element at 4.0A	1.0							V
Maximum Reverse Leakage at rated DC Blocking Voltage per element	10							μA
T _A = 25°C	100							μA
T _c = 100°C								
Maximum Thermal Resistance R _{θJC} (Note 1)	14.0							°C/W
Operating and Storage Temperature Range, T _J , T _{SG}	-65 to +150							°C

NOTE:

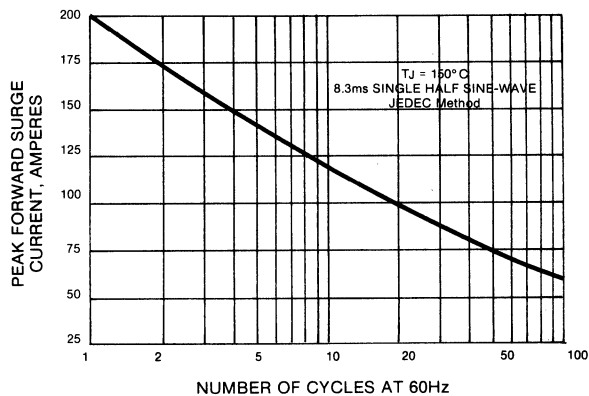
1. Thermal Resistance Junction to Case per diode.

**RATING AND CHARACTERISTICS CURVE
KBU4 SERIES**

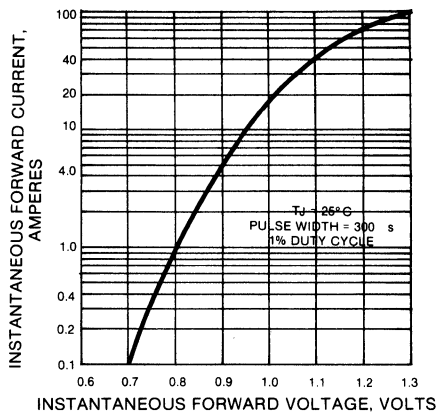
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



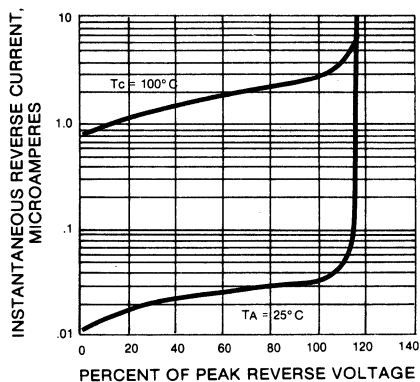
**FIG. 3 — MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT**



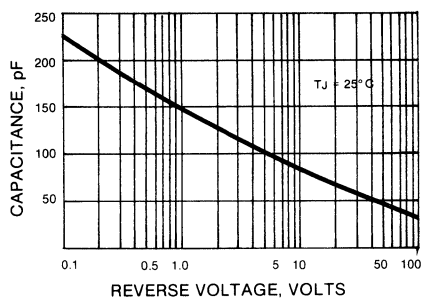
**FIG. 2 — TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS**



**FIG. 4 — TYPICAL REVERSE
CHARACTERISTICS**



**FIG. 5 — TYPICAL JUNCTION CAPACITANCE
PER ELEMENT**



KBU6 SERIES

SILICON SINGLE-PHASE BRIDGE RECTIFIERS

GENERAL
INSTRUMENT



FEATURES

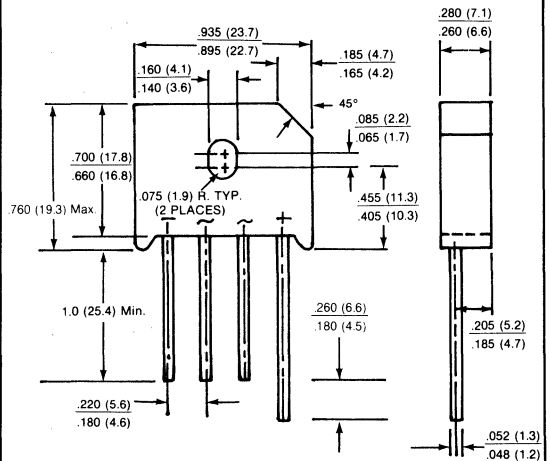
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has Underwriters Laboratory Flammability Classification 94V-0.
- Surge overload rating: 250 amperes peak
- Mounting position: Any
- Weight: 0.3 ounces, 8.0 grams
- Mounting Torque: 5 in. lb. max.

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

6.0 Amperes



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60 Hz.
For capacitive load derate current by 20%.

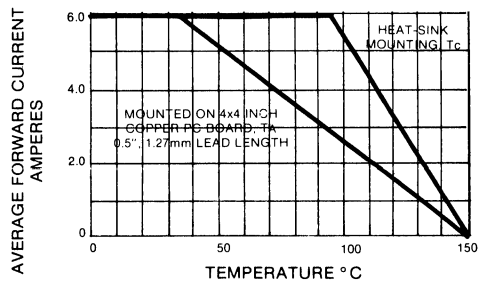
	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current at T _c = 100°C T _A = 40°C				6.0 6.0				A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)				250				A
Maximum Instantaneous Forward Voltage Drop per element at 6.0A				1.0				V
Maximum Reverse Leakage at rated DC Blocking Voltage per element T _A = 25°C T _c = 100°C				10 200				μA μA
Thermal Resistance R _{θJC} (Note 1)				10.0				°C/W
Operating and Storage Temperature Range, T _J , T _{STG}				-65 to +150				°C

NOTE:

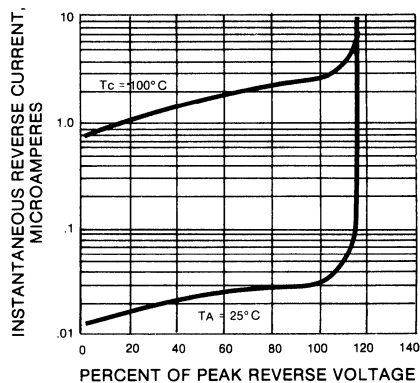
1. Thermal Resistance Junction to Case per diode.

KBU6 SERIES
RATING AND CHARACTERISTIC CURVES

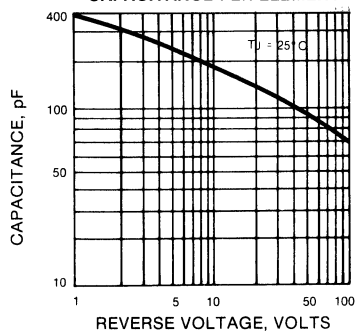
**FIG. 1 — DERATING CURVE FOR
 OUTPUT RECTIFIED CURRENT**



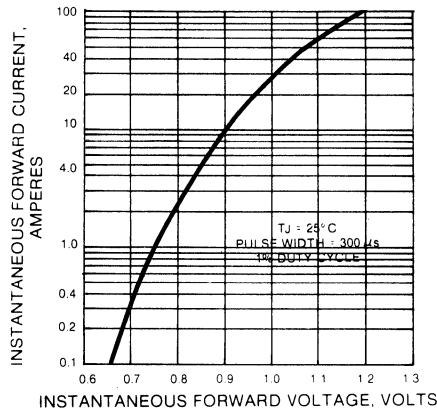
**FIG. 3 — TYPICAL REVERSE
 CHARACTERISTICS**



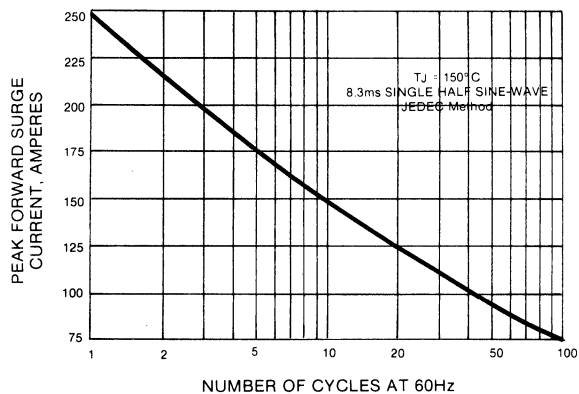
**FIG. 5 — TYPICAL JUNCTION
 CAPACITANCE PER ELEMENT**



**FIG. 2 — TYPICAL INSTANTANEOUS FORWARD
 CHARACTERISTICS**



**FIG. 4 — MAXIMUM NON-REPETITIVE PEAK
 FORWARD SURGE CURRENT**



KBPC6 SERIES

6 AMPERE/8 AMPERE SINGLE-PHASE SILICON BRIDGE

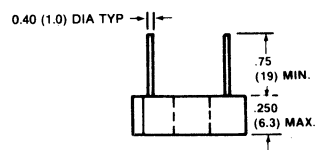
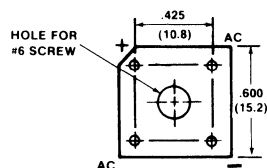
GENERAL
INSTRUMENT



FEATURES

- Surge overload rating — 125 Amperes peak
- Low forward voltage drop
- Mounting position: Any
- Small size, simple installation
- Leads solderable per MIL-STD-202, Method 208
- Weight: 0.2 ounce, 5.5 grams

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
6 and 8 Amperes



Polarity shown on side of case;
positive lead by beveled corner.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified, resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

	KBPC 6005	KBPC 601	KBPC 602	KBPC 604	KBPC 606	KBPC 608	KBPC 610	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Output Current at:								A
T _c = 50°C*	8.0							A
T _c = 100°C*	6.0							A
T _A = 50°C**	6.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	125							A
Maximum Forward Voltage Drop per element at 3.0A	1.2							V
Maximum Reverse Current at Rated DC Blocking Voltage per element								μA
T _A = 25°C	10.0							mA
T _A = 100°C	1.0							
Operating Temperature Range	T _J -55 to +125							°C
Storage Temperature Range	T _{STG} -55 to +150							°C

NOTES:

* Unit mounted on metal chassis

** Unit mounted on P.C. board

RATING AND CHARACTERISTIC CURVES
KBPC6 SERIES

FIG. 1 — MAXIMUM FORWARD SURGE CURRENT

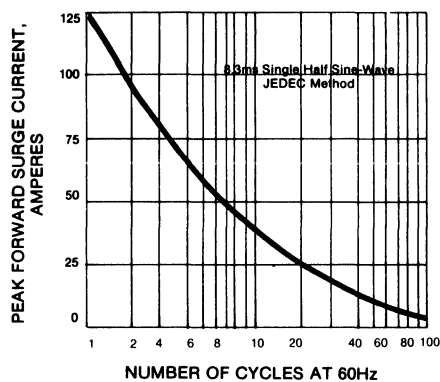


FIG. 2 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

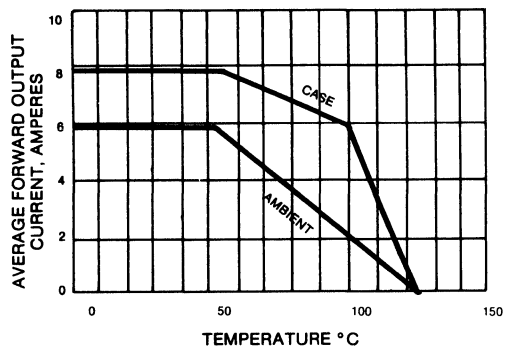


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

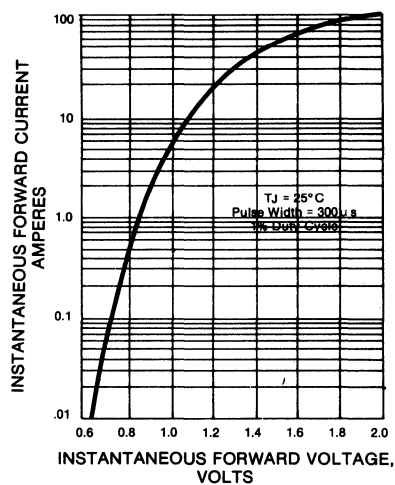
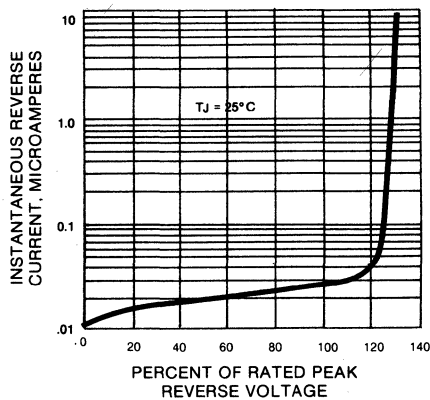


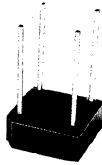
FIG. 4 — TYPICAL REVERSE CHARACTERISTICS



AKBPC6 SERIES

6 AMPERE/8 AMPERE CONTROLLED AVALANCHE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- Plastic material used carries Underwriters Laboratory recognition
- High surge current capability
- Avalanche type diodes
- Ideal for printed circuit board
- Typical I_R less than $1\mu A$
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.385", 9.5mm lead length/5 lbs., 11 kg tension.

MECHANICAL DATA

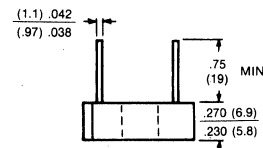
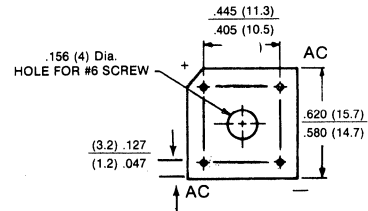
Case: Reliable low cost construction utilizing molded plastic technique
 Terminals: Leads solderable per MIL-STD-202, method 208
 Mounting Position: Any
 Weight: 0.2 ounce, 5.5 grams

VOLTAGE RANGE

200 to 800 Volts

CURRENT

6 Amperes



Polarity shown on side of case ;
 positive lead by beveled corner.
 Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.

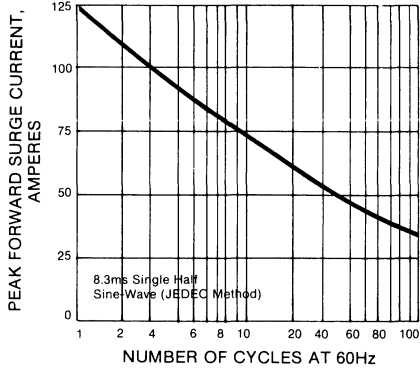
For capacitive load, derate current by 20%.

	AKBPC602	AKBPC604	AKBPC606	AKBPC608	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	800	V
Maximum RMS Input Voltage	140	280	420	560	Vp
Minimum Avalanche Breakdown Voltage @ $100\mu A$	250	450	650	850	V
Maximum Avalanche Breakdown voltage @ $100\mu A$	700	900	1100	1300	V
Maximum Average Forward Rectified Output Current at $T_c = 50^\circ C$ $T_c = 100^\circ C$	8.0 6.0				A
Maximum Instantaneous Forward Voltage Drop per element at 3.0A	1.2				V
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125				A
Maximum Continuous Power Dissipation in the avalanche region at $T_c = 50^\circ C$	2.0				W
Maximum Peak Power Dissipation in the avalanche region for $20\mu s$ Pulse	400				W
Maximum Reverse Current at Rated DC Blocking Voltage per total Bridge $T_A = 25^\circ C$ $T_A = 100^\circ C$	10.0 1.0				μA mA
Operating Temperature Range, T_J	-55 to +125				$^\circ C$
Storage Temperature Range T_{STG}	-55 to +150				$^\circ C$

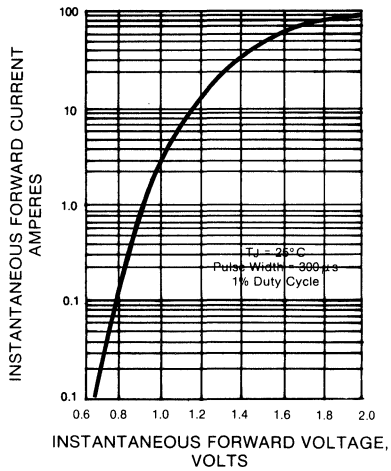
NOTES: *Unit mounted on metal chassis, 4 in² x .06" thick (100mm²x1.5mm).

**RATING AND CHARACTERISTIC CURVES
AKBPC6 SERIES**

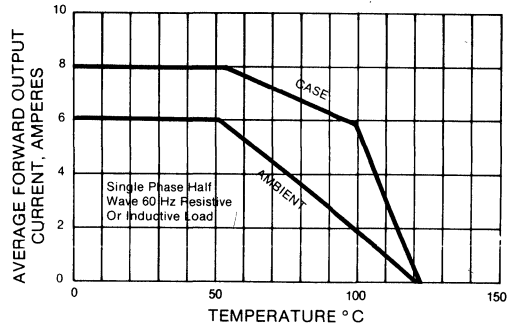
**FIG. 1 — MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT**



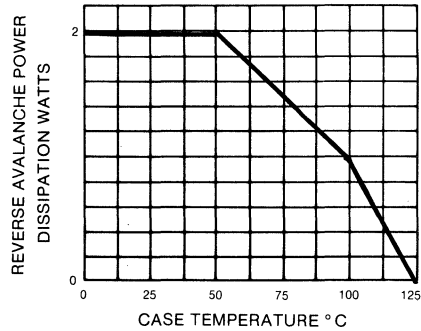
**FIG. 3—TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**



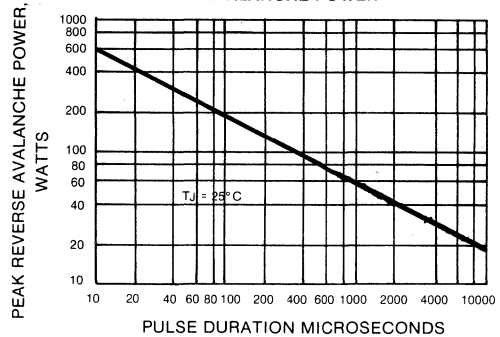
**FIG. 2—DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



**FIG. 4—CONTINUOUS REVERSE AVALANCHE
DERATING CURVE**



**FIG. 5—MAXIMUM NON-REPETITIVE REVERSE
AVALANCHE POWER**



KBPC8 SERIES

6 AMPERE/8 AMPERE SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

- High temperature metallurgically bonded—no compression contact as found in diode-constructed internal rectifiers
- Glass passivated junctions over molded epoxy case
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Typical I_a less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $250^\circ C/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

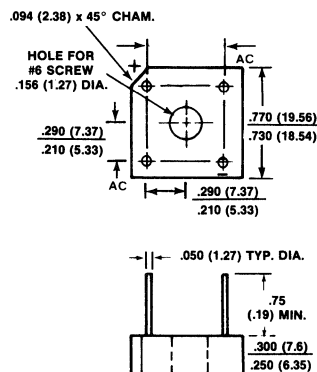
Case: Void-free plastic package
 Terminals: Axial leads, solderable per
 MIL-STD-202, Method 208
 Mounting: Thru hole for #6 screw
 Mounting position: Any
 Weight: .024 ounce, 6.9 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

8.0 Amperes



Polarity shown on side of case:
 positive lead by beveled corner.

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

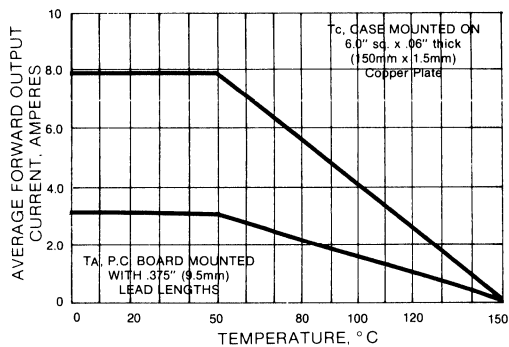
	KBPC 8005	KBPC 801	KBPC 802	KBPC 804	KBPC 806	KBPC 808	KBPC 810	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Output Current at: $T_c = 50^\circ C$ (Note 1) $T_A = 50^\circ C$ (Note 2)	8.0 3.0							A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125							A
Maximum Instantaneous Forward Voltage Drop per element at 3.0A	1.2							V
Maximum Reverse Current at Rated DC Blocking Voltage per element $T_A = 25^\circ C$ $T_c = 100^\circ C$	10.0 1.0							μA mA
Maximum Thermal Resistance $R_{\theta JC}$ (Note 1)	10							$^\circ C/W$
Operating and Storage Temperature Range T_c, T_{STG}	-55 to +150							$^\circ C$

NOTES:

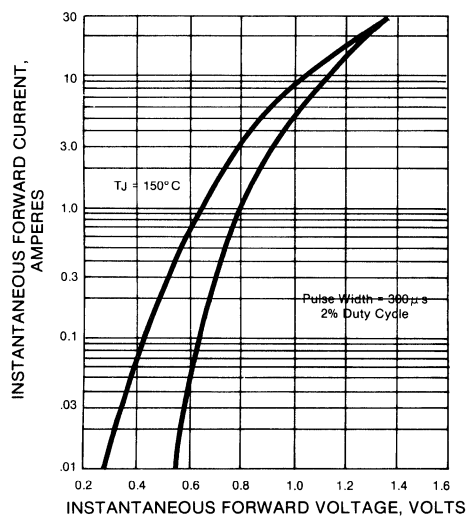
1. Unit mounted on 6.0" sq. x .06" thick (150mm² x 1.5mm) copper plate.
2. Unit mounted on P.C. board at .375", 9.5mm lead lengths.

RATING AND CHARACTERISTIC CURVES **KBPC8 SERIES**

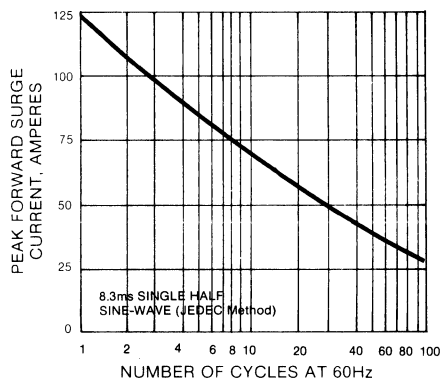
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



**FIG. 3 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS
PER ELEMENT**



**FIG. 2 — MAXIMUM NON-REPETITIVE
PEAK FORWARD SURGE CURRENT**



**FIG. 4 — TYPICAL JUNCTION CAPACITANCE
PER ELEMENT**

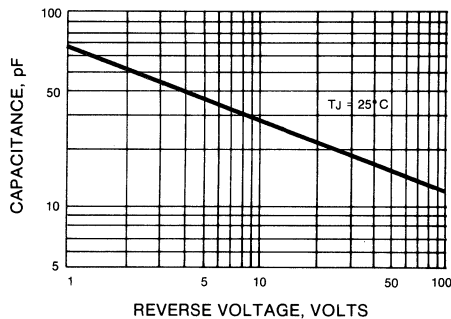
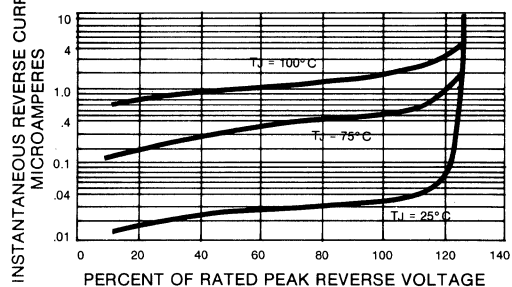


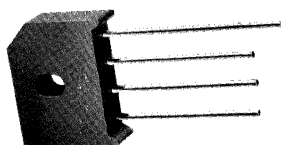
FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



KBU8 SERIES

SILICON SINGLE-PHASE BRIDGE RECTIFIERS

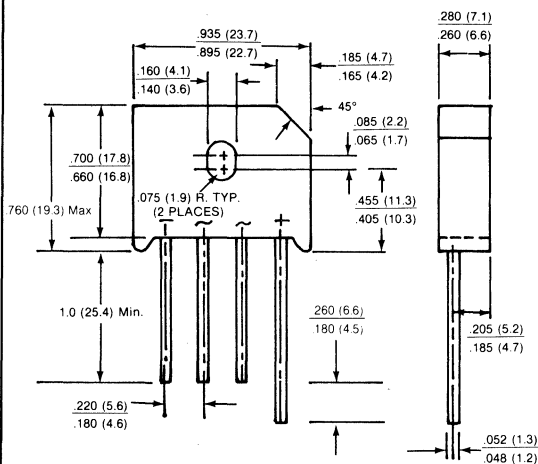
**GENERAL
INSTRUMENT**



FEATURES

- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- Surge overload rating: 300 amperes peak
- Mounting position: Any
- Weight: 0.3 ounces, 8.0 grams
- Mounting Torque: 5 in. lb. max.

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
8.0 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load 60 Hz.
For capacitive load derate current by 20%.

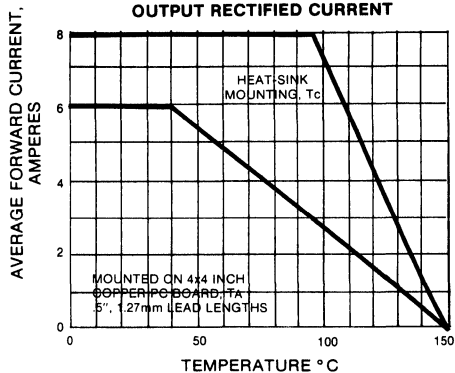
	KBU8A	KBU8B	KBU8D	KBU8G	KBU8J	KBU8K	KBU8M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current at				8.0				A
T _c = 100°C				6.0				A
T _A = 45°C								
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)				300				A
Maximum Instantaneous Forward Voltage Drop per element at 8.0A				1.0				V
Maximum Reverse Leakage at rated				10				μA
T _A = 25°C				300				μA
DC Blocking Voltage per element								
T _c = 100°C								
Thermal Resistance R _{θJC} (Note 1)				8.0				°C/W
Operating and Storage Temperature Range, T _J , T _{STG}				-65 to +150				°C

NOTE:

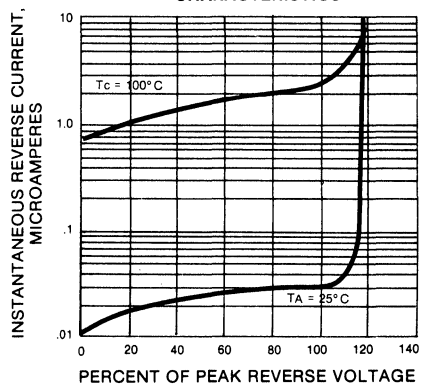
1. Thermal Resistance Junction to Case per diode.

**KBU8 SERIES
RATING AND CHARACTERISTIC CURVES**

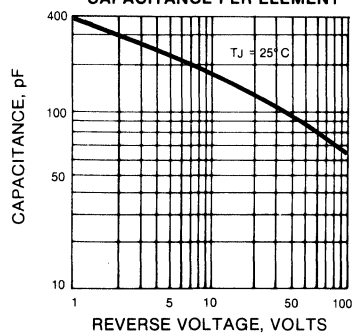
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



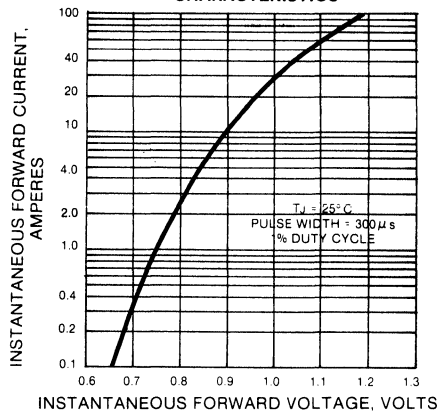
**FIG. 3 — TYPICAL REVERSE
CHARACTERISTICS**



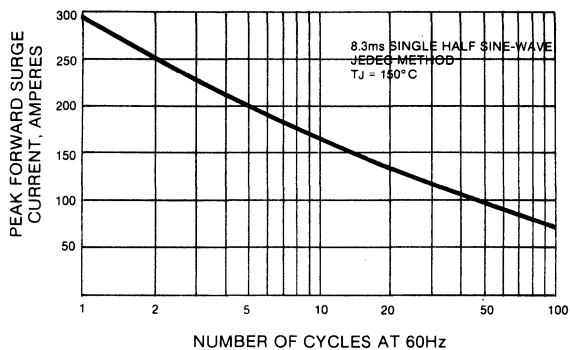
**FIG. 5 — TYPICAL JUNCTION
CAPACITANCE PER ELEMENT**



**FIG. 2 — TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS**



**FIG. 4 — MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT**



KBPC10, 12, 15, 25, 35 SERIES

HIGH CURRENT SILICON BRIDGE RECTIFIERS

GENERAL
INSTRUMENT

FEATURES

- Electrically isolated metal case for maximum heat dissipation
- Surge overload ratings to 400 amperes
- Terminals either universal .25" (6.35mm) FASTON or wire leads
- For extra creepage distance insulating coating is available
- These bridge are on the U/L Recognized Products List for current of 10, 15, 25 and 35 amperes
- High temperature soldering guaranteed: 300°C/10 seconds/ 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Metal, electrically isolated. For extra creepage cover see Fig. 10 Suffix letter "D" added to indicate insulating coating.

Terminals: Either plated .25" (6.35mm) FASTON or plated copper leads .040" (1.02mm) diameter. Suffix letter "W" added to indicate leads.

Weight: 1.0 ounce, 30 grams

Mounting Position: Bolt down on heat-sink for maximum heat transfer efficiency.

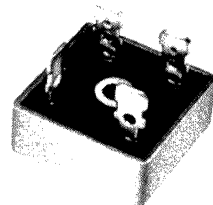
Position lug (optional): .062" (1.57mm) diameter, 0.82" (2.08mm) high. Indicated by suffix letter "L"

Mounting Torque: 20 in. lb. max.

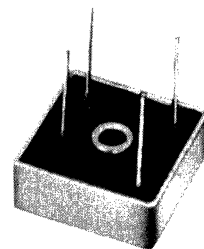
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified; resistive or inductive load at 60Hz. For capacitive load, derate current by 20%.

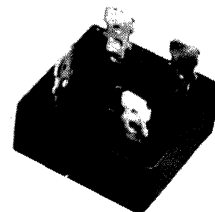
		-005	-01	-02	-04	-06	-08	-10	Units
Maximum Recurrent Peak Voltage		50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage		35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage		50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current at T _c = 55°C	KBPC10 KBPC12 KBPC15 KBPC25 KBPC35				10.0 12.0 15.0 25.0 35.0				A A A A A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	KBPC10 KBPC12 KBPC15 KBPC25 KBPC35				200 300 300 300 400				A A A A A
Maximum Instantaneous Forward voltage per Bridge Element at Specified Current	KBPC10 KBPC12 KBPC15 KBPC25 KBPC35						1.2		V
Maximum Reverse DC Current at Rated DC Blocking Voltage per element					10				μA
Operating Temperature Range T _j Storage Temperature Range T _{stg}					-65 to +175				°C



KBPC



KBPC-W



KBPC-D

RATING AND CHARACTERISTIC CURVES

FIG. 1

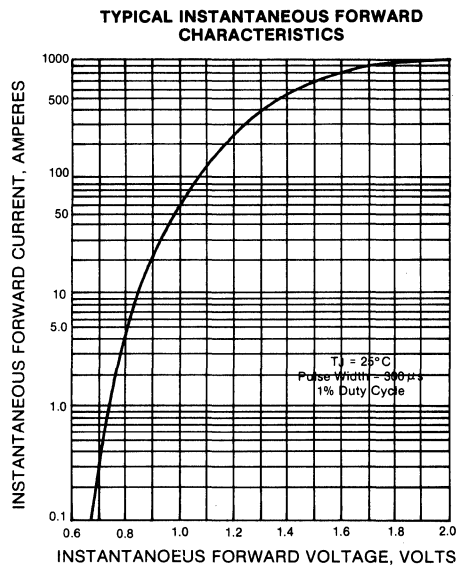


FIG. 2

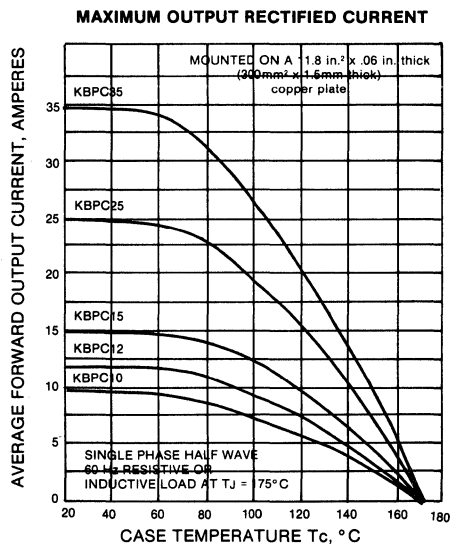


FIG. 3

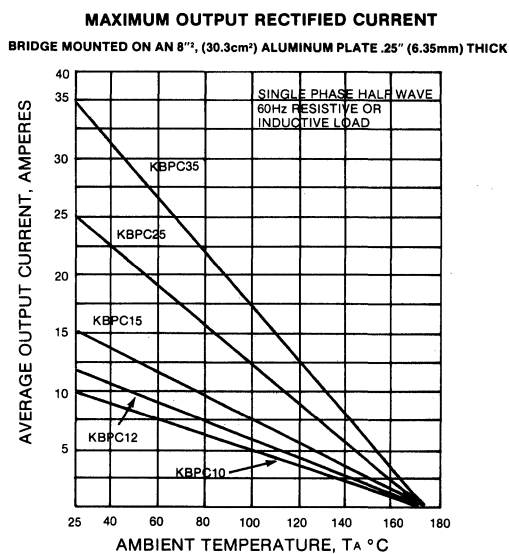


FIG. 4

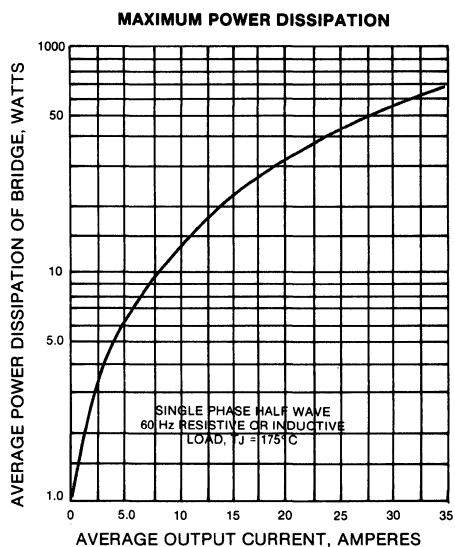


FIG. 5

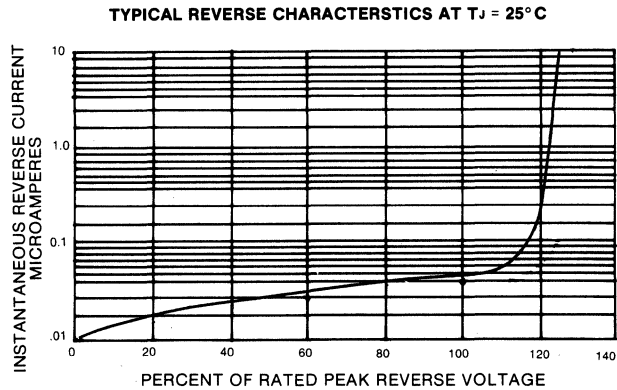


FIG. 6

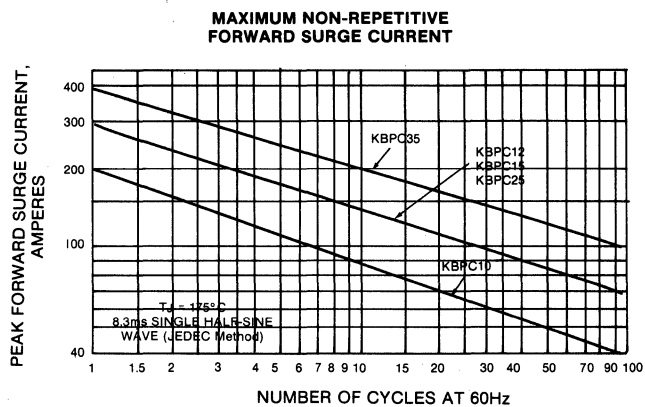


FIG. 7

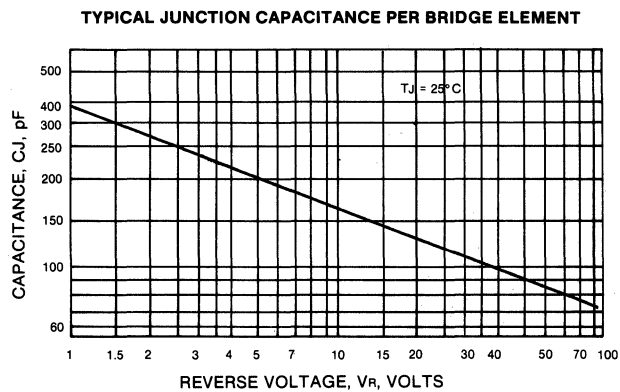
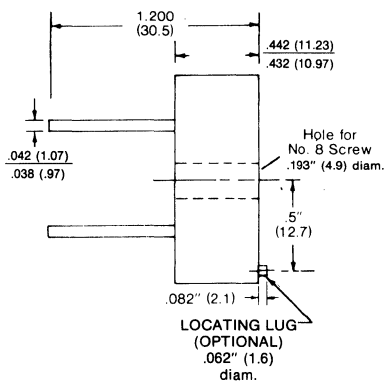
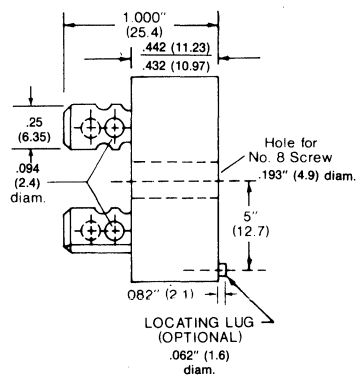


Figure 1: Dimensions of the 1000 Series PCB. The drawing shows a rectangular PCB with a central circular feature. Dimensions are provided in inches and millimeters. Key dimensions include: overall width 1.13 (28.7) inches, overall height 1.12 (28.4) inches, mounting hole diameter 0.32 (8.4) inches, and mounting hole pitch 0.28 (7.1) inches. The PCB is labeled 'AC' in two locations.

[illegible]

LOCATING
LUG (OPTIONAL)
.062" (1.6)
diam.

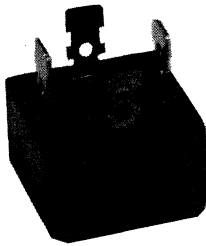
[illegible]

LOCATING
LUG (OPTIONAL)
.062" (1.6)
diam.

KBPC-WD

GIB2500 SERIES

**GENERAL
INSTRUMENT**



FEATURES

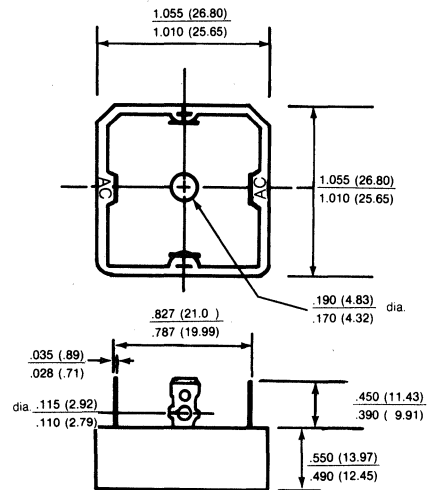
- Plastic case with an electrically isolated aluminum heatsink
- Electrically isolated base - 1800 volts
- 400 ampere surge capability
- Low forward voltage drop
- Solderable .25" FASTON terminals
- Polarity embossed on case
- Weight: 0.9 ounce, 25 grams
- Mounting Torque: 20 in. lb. max.

VOLTAGE RANGE

50 to 1000 Volts PRV

CURRENT

25 Amperes



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

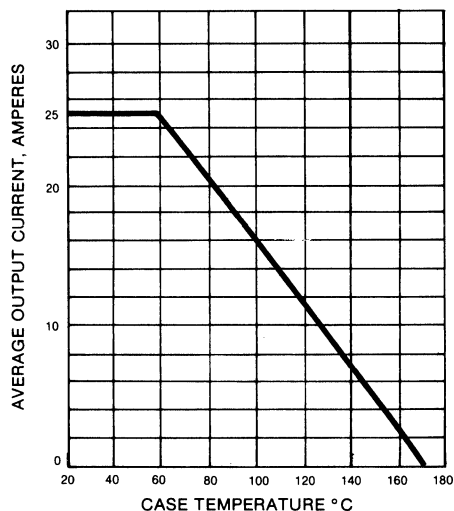
	GIB2500	GIB2501	GIB2502	GIB2504	GIB2506	GIB2508	GIB2510	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Output Current at T _c = 55°C	25							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	400							A
Maximum Forward Voltage per bridge element at 40A	1.05							V
Maximum DC Reverse Current at Rated DC Blocking Voltage per Bridge Element	10							μA
Thermal Resistance, R _{ΘJA} per Diode (Note 1) per Total Bridge	10 2.8							°C/W
Operating and Storage Temperature Range, T _J	-65 to +175							°C

NOTES:

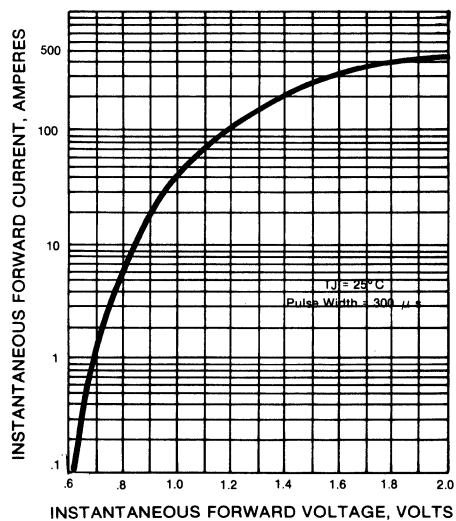
1. Thermal Resistance Junction to Case

**RATING AND CHARACTERISTIC CURVES
GIB2500 SERIES**

**Fig. 1—FORWARD OUTPUT CURRENT
DERATING CURVE**



**Fig. 2—TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS**



**Fig. 3—MAXIMUM NON-REPETITIVE
SURGE CURRENT**

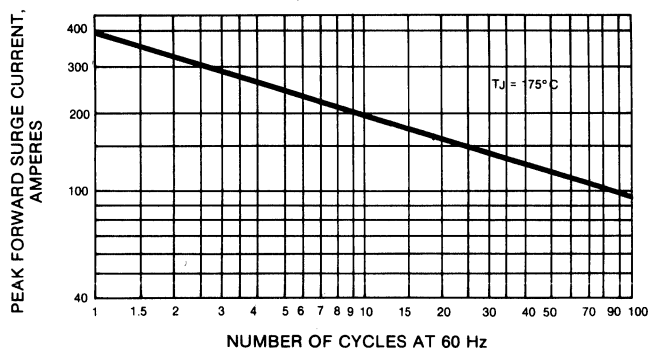


Fig. 4—TYPICAL REVERSE CHARACTERISTICS

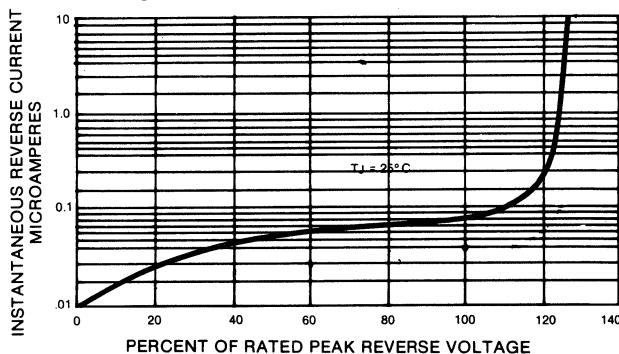
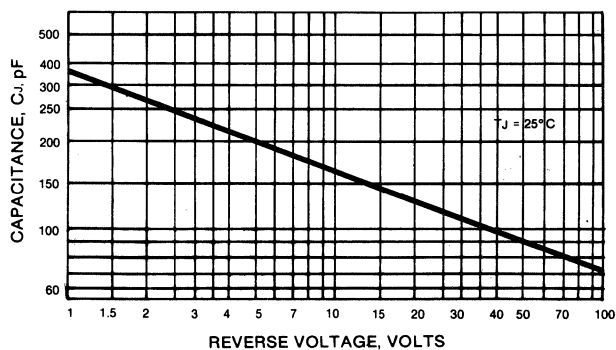


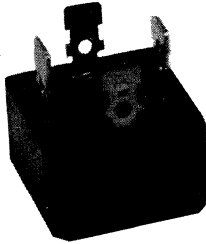
Fig. 5—TYPICAL JUNCTION CAPACITANCE



GIB3500 SERIES

HIGH CURRENT SINGLE PHASE SILICON BRIDGE

GENERAL
INSTRUMENT



FEATURES

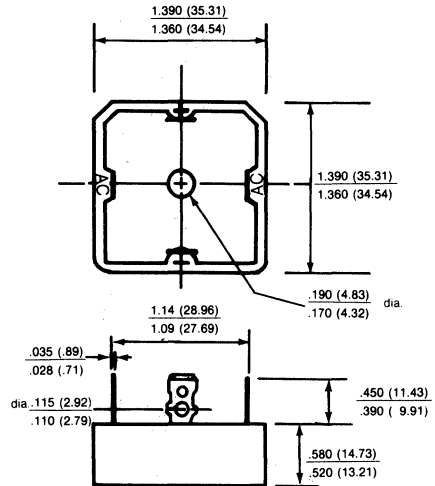
- Plastic case with an electrically isolated aluminum heatsink
- Electrically isolated base - 1800 volts
- 400 ampere surge capability
- Low forward voltage drop
- Solderable .25" FASTON terminals
- Polarity embossed on case
- Weight: 1.32 ounce, 37 grams
- Mounting Torque: 20 in. lb. max.

VOLTAGE RANGE

50 to 1000 Volts PRV

CURRENT

35 Amperes



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

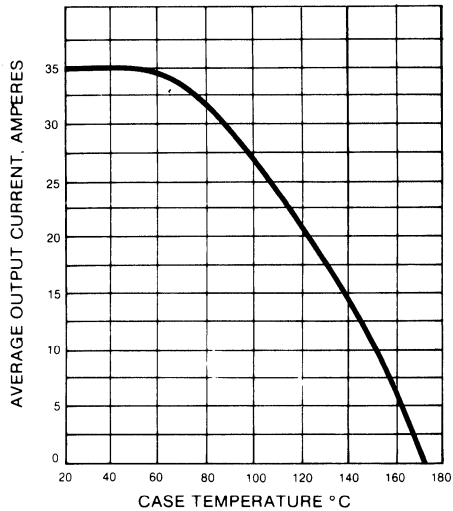
	GIB3500	GIB3501	GIB3502	GIB3504	GIB3506	GIB3508	GIB3510	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Output Current at T _c = 55°C	35							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	400							A
Maximum Forward Voltage per bridge element at 55A	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage per bridge element	10							μA
Thermal Resistance, R _{θJC} (Note 1)	1.87							°C/W
Operating and Storage Temperature Range	-65 to +175							°C

NOTE:

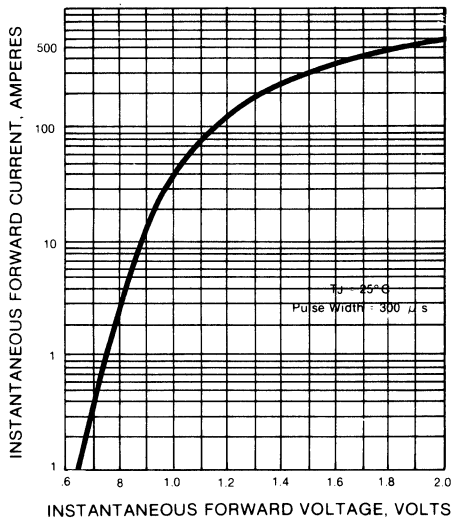
1. Thermal Resistance, Junction to Case-for Total Bridge.

RATING AND CHARACTERISTIC CURVES
GIB3500 SERIES

**Fig. 1—FORWARD OUTPUT CURRENT
 DERATING CURVE**



**Fig. 2—TYPICAL INSTANTANEOUS FORWARD
 CHARACTERISTICS**



**Fig. 3—MAXIMUM NON-REPETITIVE
 SURGE CURRENT**

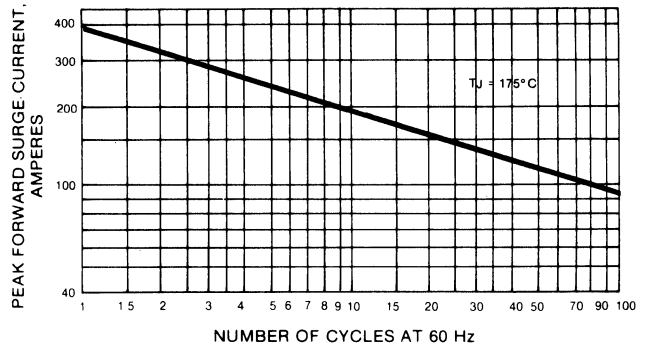


Fig. 4—TYPICAL REVERSE CHARACTERISTICS

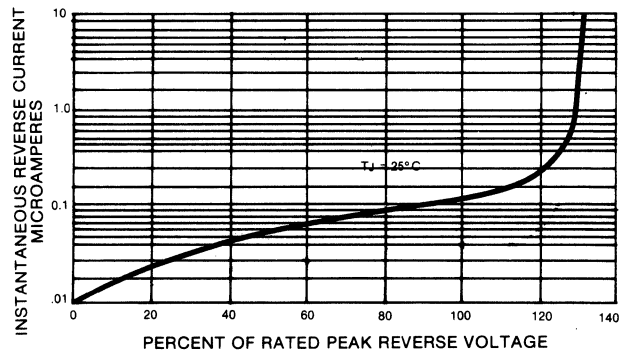
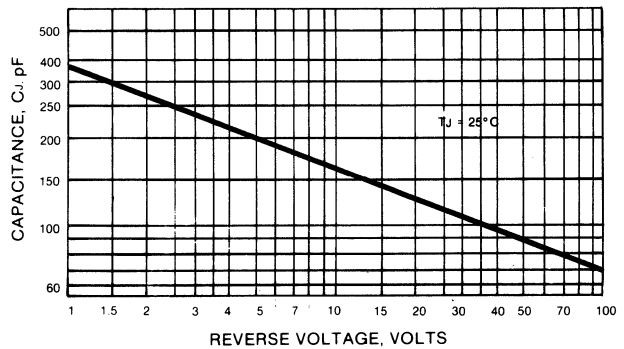


Fig. 5—TYPICAL JUNCTION CAPACITANCE



15IP, 15IN, 15ID SERIES

15 AMPERE SINGLE-PHASE CENTER TAP AND DOUBLER

**GENERAL
INSTRUMENT**



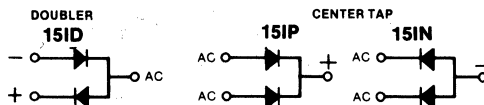
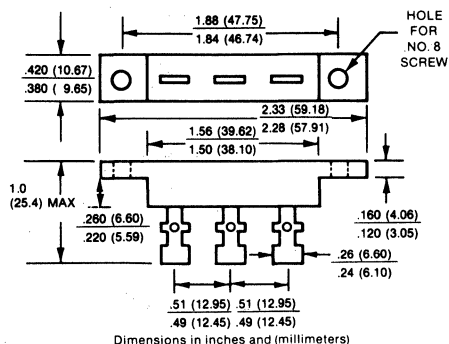
FEATURES

- Electrically isolated metal case for maximum heat dissipation
- Surge overload ratings to 300 amperes
- Low forward voltage drop.
- All external surfaces corrosion resistant

MECHANICAL DATA

Terminals: Tinned plated .25", .030 Dia. Faston
Case: Metal, electrically isolated
Mounting Position: Any
Weight: 1 ounce, 30 grams

VOLTAGE RANGE
50 to 1000 Volts PRV
CURRENT
15 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, halfwave 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	15IP-005	15IP-02	15IP-04	15IP-06	15IP-08	15IP-10	UNITS
Maximum Recurrent Peak Reverse Voltage	50	200	400	600	800	1000	V
Maximum RMS Voltage	35	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _c = 55°C	15						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	300						A
Maximum Forward Voltage per Element at 7.5A 3.0A	1.2 1.0						V V
Maximum Reverse Current at rated DC Blocking Voltage per element	10						μA
Typical Junction Capacitance (Note 1)	230						pF
Typical Reverse Recovery Time (Note 2)	2						μs
Operating Temperature Range T _j Storage Temperature Range T _{stg}	-65 to +150						°C

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

2. Measured with I_F = .5A, I_R = 1A, I_{rr} = .25A.

3. When ordering please specify complete part number as follows: Basic portion 15IP (positive), 15IN (negative), 15ID (doubler)

Followed by voltage; e.g. 15IP005 (50 volt positive center-tap), 15ID-06 (600 volt doubler).

RATING AND CHARACTERISTIC CURVES
151P, 151N, 151D SERIES

**FIG. 1 — DERATING CURVE FOR
 OUTPUT RECTIFIED CURRENT**

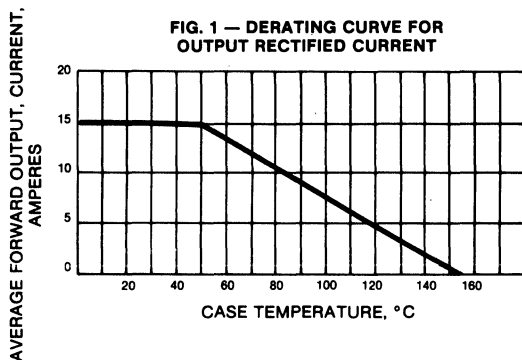
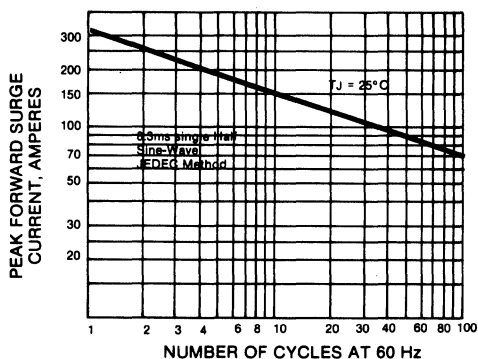
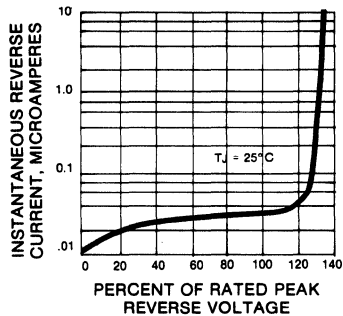


FIG. 2 — PEAK FORWARD SURGE CURRENT



**FIG. 3 — TYPICAL REVERSE
 CHARACTERISTICS**



**FIG. 4 — TYPICAL INSTANTANEOUS FORWARD
 CHARACTERISTICS**

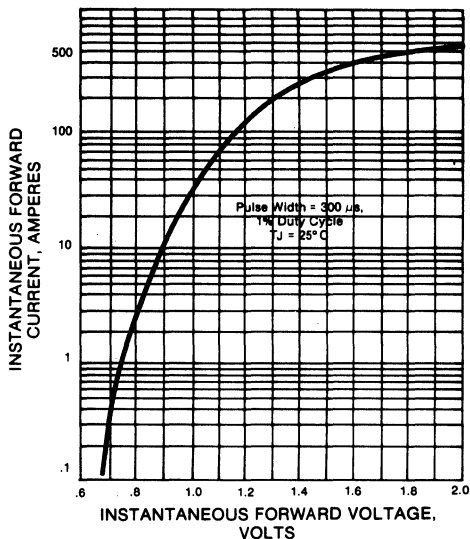
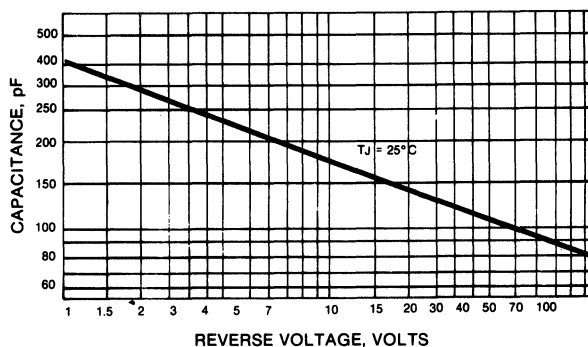


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

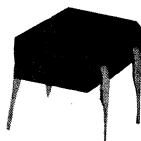


**FAST RECOVERY
BRIDGE RECTIFIERS
1.0 AMPERE TO 35 AMPERES
50 VOLTS TO 1000 VOLTS**

RDF-M SERIES

MINIATURE FAST RECOVERY GLASS PASSIVATED SINGLE-PHASE SILICON BRIDGE

GENERAL
INSTRUMENT



FEATURES

- Fast switching for high efficiency
- Plastic material used carries Underwriters Laboratory recognition
- Glass passivated junctions
- Surge overload rating — 50 amperes peak
- Ideal for printed circuit board
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed 300° C/10 seconds at 5 lbs. (2.2kg) tension

MECHANICAL DATA

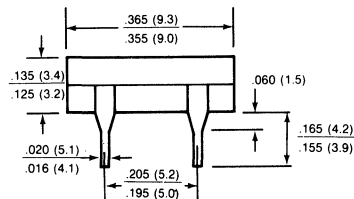
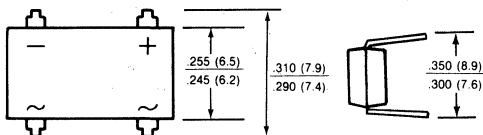
Case: Reliable low cost construction utilizing molded plastic technique results in inexpensive product
 Terminals: Lead solderable per MIL-STD-202, Method 208
 Polarity: Polarity symbols molded on body
 Mounting Position: Any
 Weight: 0.04 ounce, 1.0 gram

VOLTAGE RANGE

50 to 800 Volts

CURRENT

1.0 Ampere



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

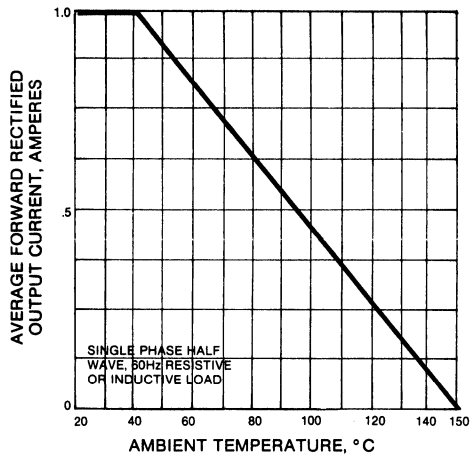
	RDF005M	RDF01M	RDF02M	RDF04M	RDF06M	RDF08M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Output Current T _A = 40°C	1.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0						A
I ² t Rating for fusing (t<8.35ms)	5.0						A ² t
Maximum Forward Voltage Drop per Bridge Element at 1.0A	1.3						V
Maximum Reverse Current at rated T _A = 25°C DC Blocking Voltage per element T _A = 100°C	10.0 1.0						μA mA
Maximum Reverse Recovery Time (Note 1)	200				350		ns
Operating Temperature Range, T _J	-55 to +150						°C
Storage Temperature Range, T _{STG}	-55 to +150						°C

NOTES:

1. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, I_{rr} = .25A.

RATING AND CHARACTERISTIC CURVES
RDF-M SERIES

**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



**FIG. 2 — TYPICAL FORWARD
CHARACTERISTICS**

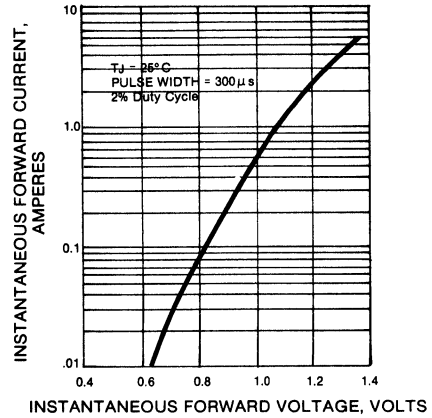


FIG. 3 — MAXIMUM FORWARD SURGE CURRENT

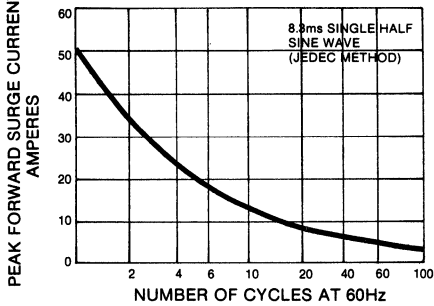


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

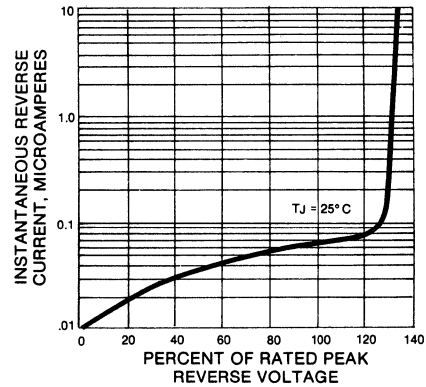
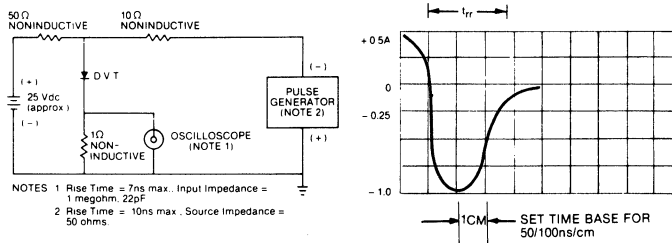


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



RW005M THRU RW10M SERIES

1.5 AMPERE FAST-RECOVERY MINIATURE SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

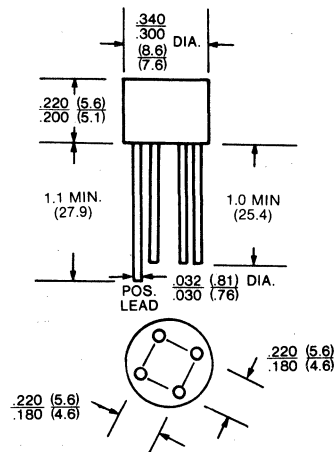
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- High case dielectric strength
- Typical I_A less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- Ideal for printed circuit board
- High temperature soldering guaranteed: $250^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Reliable low cost construction utilizing molded plastic technique
 Terminals: Leads solderable per MIL-STD-202, Method 208
 Mounting Position: Any
 Weight: 0.05 ounce, 1.3 grams

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
1.5 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

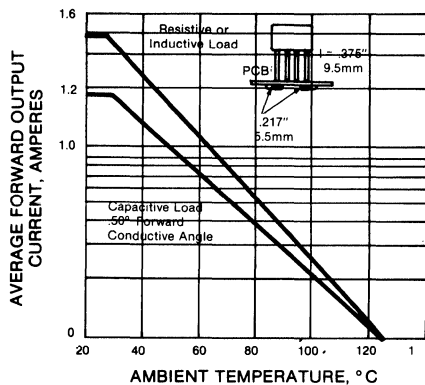
	RW005M	RW01M	RW02M	RW04M	RW06M	RW08M	RW10M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current .375", 9.5mm lead lengths at T _A = 25°C	1.5							A
Maximum Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	50							A
I ² t Rating for fusing (t < .00835)	5.0							A ² t
Maximum Instantaneous Forward Voltage Drop per element at 1.0A	1.3							V
Maximum Reverse Current at T _A = 25°C Rated DC Blocking Voltage T _A = 100°C	10.0 1.0							μ A mA
Maximum Reverse Recovery Time (Note 1)	200			350		350	500	ns
Typical Thermal Resistance R _{θJA} (Note 2)	50							°C/W
Operating Temperature Range T _A	-55 to +125							°C
Storage Temperature Range T _{STG}	-55 to +150							°C

NOTES:

1. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$.
2. United mounted on P.C. board with .375", 9.5mm lead lengths.

**RATING AND CHARACTERISTIC CURVES
RW005M THRU RW10M SERIES**

**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



**FIG. 2 — MAXIMUM NON-REPETITIVE
FORWARD SURGE CURRENT**

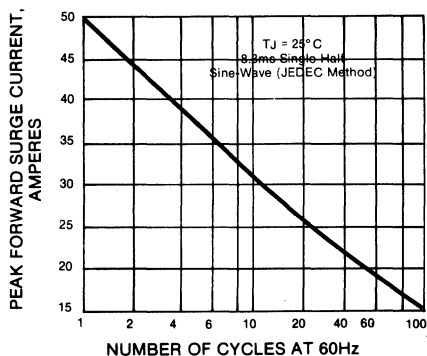
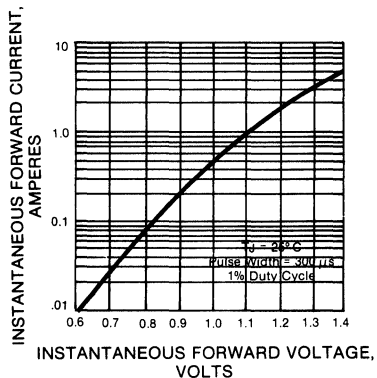


FIG. 3 — TYPICAL FORWARD CHARACTERISTICS



**FIG. 4 — TYPICAL REVERSE
CHARACTERISTICS (25°C)**

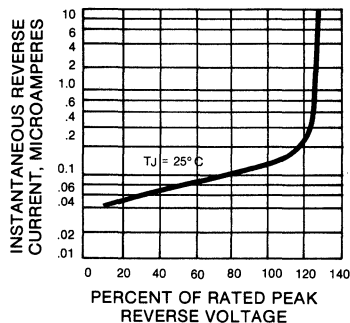
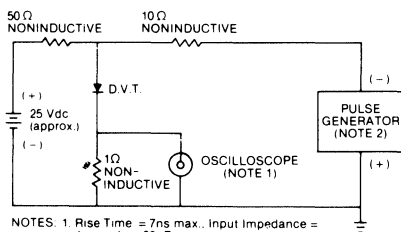
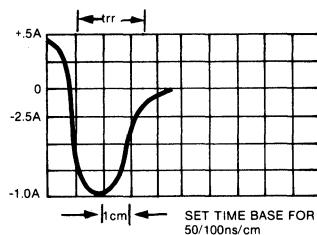


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



- NOTES: 1. Rise Time = 7ns max., Input Impedance = 1 megohm, 22pF
2. Rise Time = 10ns max., Source Impedance = 50 ohms.



RKBP SERIES

1.5 AMPERE FAST-RECOVERY MINIATURE SINGLE-PHASE SILICON BRIDGE

GENERAL
INSTRUMENT

FEATURES

- Plastic material used carries Underwriters Laboratory recognition.
- Fast switching for high efficiency.
- Ideal for printed circuit board.
- Typical I_R less than $1 \mu A$.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL

Case: Reliable low cost construction utilizing molded plastic technique.

Terminals: Leads solderable per MIL-STD-202, Method 208

Mounting position: Any

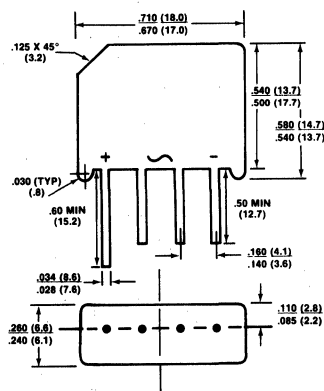
Weight: 0.13 ounce, 3.6 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.5 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

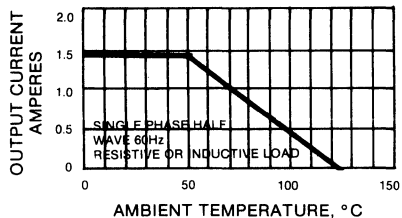
Ratings at $25^\circ C$ ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

	RKBP005	RKBP01	RKBP02	RKBP04	RKBP06	RKBP08	RKBP10	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current at $T_A = 50^\circ C$	1.5							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	50.0							A
Maximum Instantaneous Forward Voltage Drop per element at 1.0A	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage per element	10.0							μA
Maximum Reverse Current at Rated DC Blocking Voltage (Total Bridge) $T_A = 100^\circ C$	1.0							mA
Maximum Reverse Recovery Time (Note 1)	200				350	350	500	ns
Operating Temperature Range T_A	-55 to $+125$							$^\circ C$
Storage Temperature Range T_{STG}	-55 to $+150$							$^\circ C$

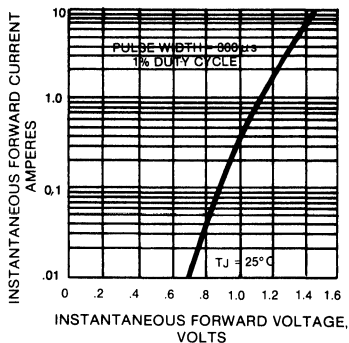
NOTE 1 — Reverse Recovery Test Conditions: $I_F = .5A$, $I_R = 1A$, $t_{rr} = .25A$

RATING AND CHARACTERISTIC CURVES RKBP SERIES

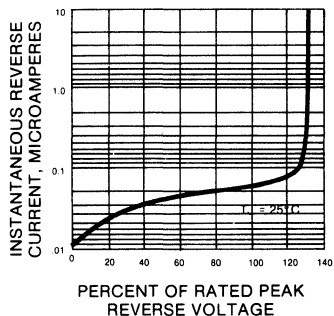
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



**FIG 2 - TYPICAL FORWARD CHARACTERISTICS
PER BRIDGE ELEMENT**



**FIG. 3 - TYPICAL REVERSE
CHARACTERISTICS
PER BRIDGE ELEMENT**



**FIG. 4 — MAXIMUM NON-REPETITIVE
SURGE CURRENT**

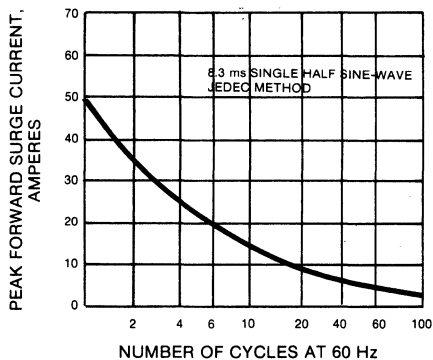
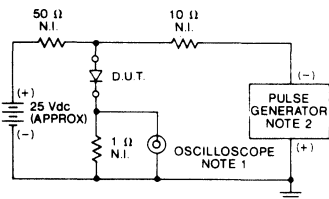
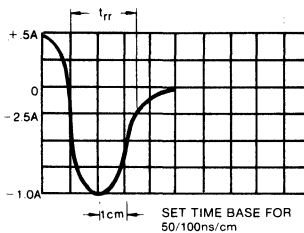


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

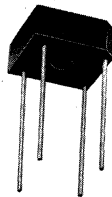


- NOTES:
1. RISE TIME = 7ns MAX., INPUT IMPEDANCE = 1 MEGOHM, 22 pF.
2. RISE TIME = 10ns MAX., SOURCE IMPEDANCE = 50 OHM.



RKBPC1 SERIES

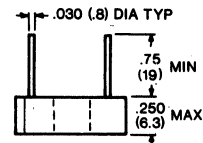
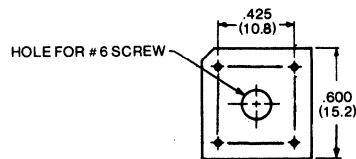
GENERAL INSTRUMENT



FEATURES

- Glass passivated junctions
- Surge overload rating—50 amperes peak
- Fast switching
- Low forward voltage drop
- Small size; simple installation
- Tinned copper leads
- Mounting position: Any
- Weight: 0.2 ounce, 5.5 grams

VOLTAGE RANGE
50 to 1000 Volts PRV
CURRENT
2 and 3 Amperes



Polarity shown on side of case;
positive lead by beveled corner.
Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified; resistive or inductive load at 60Hz.
For capacitive load, derate current by 20%.

	RKBPC1005	RKBPC102	RKBPC104	RKBPC106	RKBPC108	RKBPC110	UNITS
Maximum Recurrent Peak Reverse Voltage	50	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	140	280	420	560	700	V
Maximum Average Forward Rectified Output Current at:							
$T_C = 50^\circ\text{C}^*$	3.0						A
$T_C = 100^\circ\text{C}^*$	2.0						A
$T_A = 50^\circ\text{C}^{**}$	2.0						A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	50.0						A
Maximum Forward Voltage per element at 1.0 A	1.3						V
Maximum Reverse Current at Rated DC Blocking Voltage per element							
$T_A = 25^\circ\text{C}$	10.0						μA
$T_A = 100^\circ\text{C}$	1.0						mA
Maximum Reverse Recovery Time ***	200	200	200	350	350	500	ns
Operating Temperature Range T_C	-55 to 125						$^\circ\text{C}$
Storage Temperature Range T_A	-55 to 150						$^\circ\text{C}$

Notes: *Unit mounted on metal chassis

**Unit mounted on P.C. board

***Measured with $I_F = .5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = .25\text{A}$

RATING AND CHARACTERISTIC CURVES
RKBPC1 SERIES

FIG. 1. DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

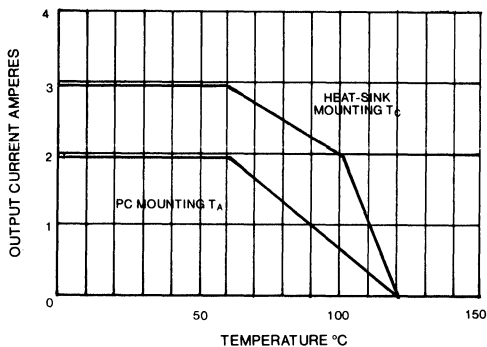


FIG. 2. TYPICAL REVERSE CHARACTERISTICS (25°C T_A)

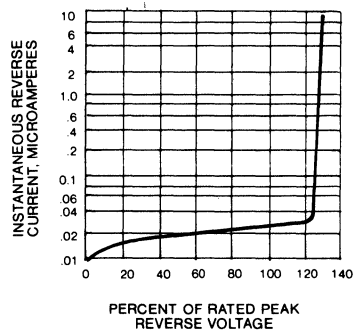


FIG. 3. FORWARD CHARACTERISTICS

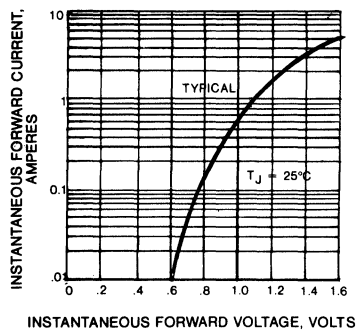


FIG. 4. MAXIMUM FORWARD SURGE CURRENT

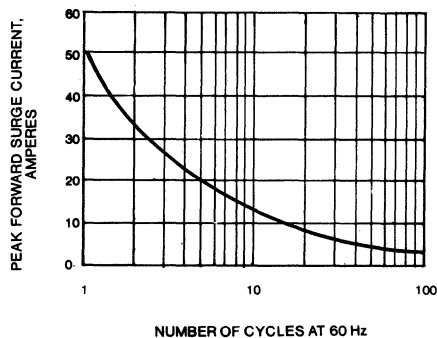
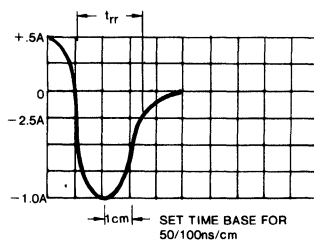
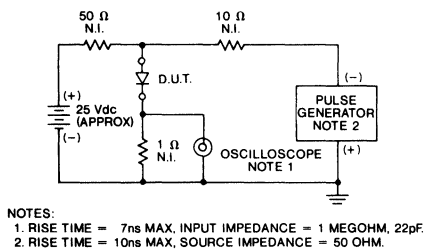


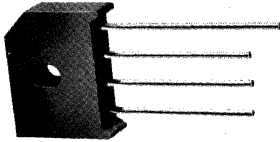
FIG. 5. REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



RKBU4 SERIES

SILICON SINGLE-PHASE BRIDGE RECTIFIER

GENERAL
INSTRUMENT



FEATURES

- Plastic material used carries Underwriters Laboratory recognition 94V-0
- Built-In Printed Circuit Board Stand-Offs
- High case dielectric strength
- Typical I_R less than $1\mu A$
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $250^\circ C/10$ seconds/.375" (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

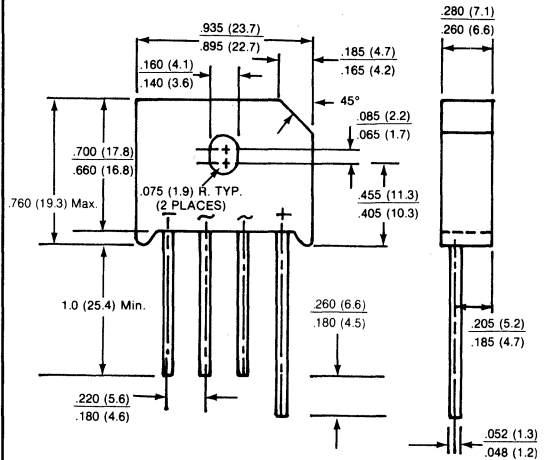
Case: Reliable low cost construction utilizing molded plastic technique
 Terminals: Leads solderable per MIL-STD-202, Method 208
 Mounting Position: Any
 Mounting Torque: 5 In. Lb. max
 Weight: 0.3 ounces, 8.0 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

4.0 Amperes



All dimension in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

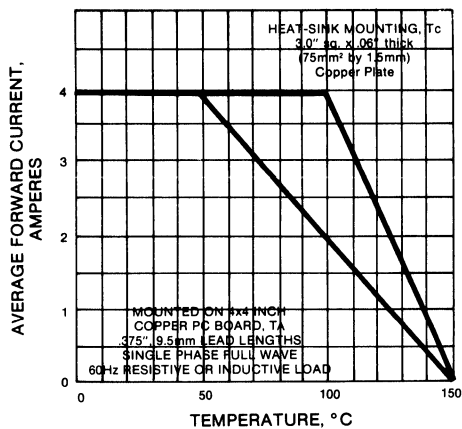
	RKBU4A	RKBU4B	RKBU4D	RKBU4G	RKBU4J	RKBU4K	RKBU4M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _C = 100° C T _A = 50° C	4.0 4.0							A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	200							A
Maximum Instantaneous Forward Voltage Drop per element at 4.0A	1.3							V
Maximum Reverse Leakage at rated DC Blocking Voltage per element T _A = 25° C T _A = 100° C	10 1.0							μA mA
Maximum Reverse Recovery Time (Note 2)	200				350		500	ns
Thermal Resistance R _{θJC} (Note 1)	14.0							°C/W
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +150							°C

NOTES:

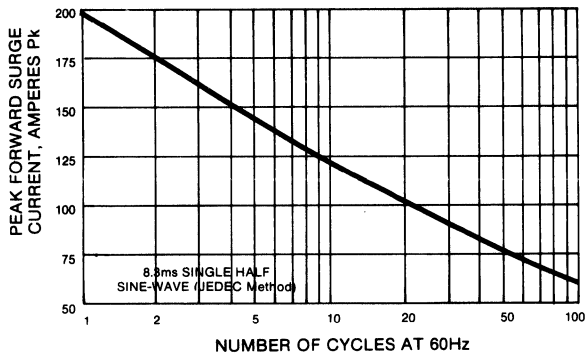
1. Thermal Resistance from Junction to Case per diode.
2. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = .25A$.

**RATING AND CHARACTERISTIC CURVES
RKB44 SERIES**

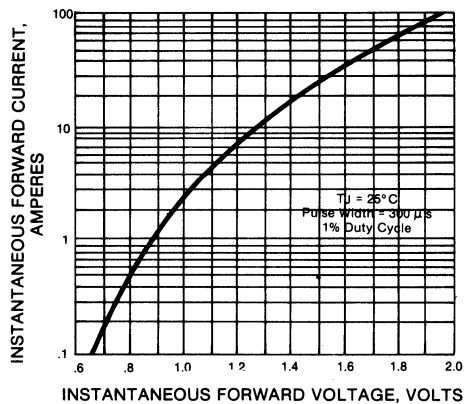
**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



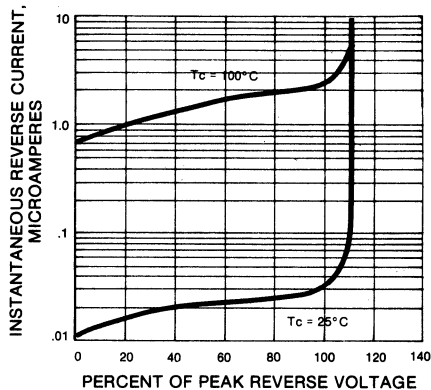
**FIG. 2 — MAXIMUM NON-REPETITIVE
FORWARD SURGE CURRENT**



**FIG. 3 — TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS**



**FIG. 4 — TYPICAL REVERSE
CHARACTERISTICS**



RKBPC6 SERIES

6 AMPERE FAST-RECOVERY SINGLE-PHASE SILICON BRIDGE

**GENERAL
INSTRUMENT**



FEATURES

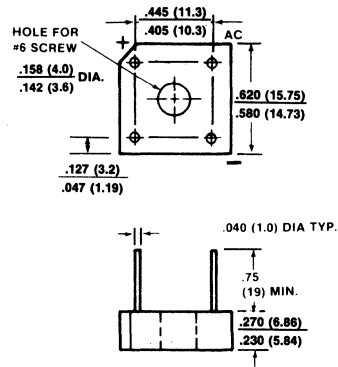
- Plastic material used carries Underwriters Laboratory Flammability classification 94V-0
- High case dielectric strength
- Typical IR less than $1\mu A$
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- Ideal for printed circuit board
- High temperature soldering guaranteed: $250^{\circ}C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Reliable low cost construction utilizing molded plastic technique
 Terminals: Leads solderable per MIL-STD-202, Method 208
 Mounting Position: Any
 Weight: 0.13 ounce, 3.8 grams

VOLTAGE RANGE
 50 to 1000 Volts PRV

CURRENT
 6 and 8 Amperes



Polarity shown on side of case:
 positive lead by beveled corner.

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^{\circ}C$ ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

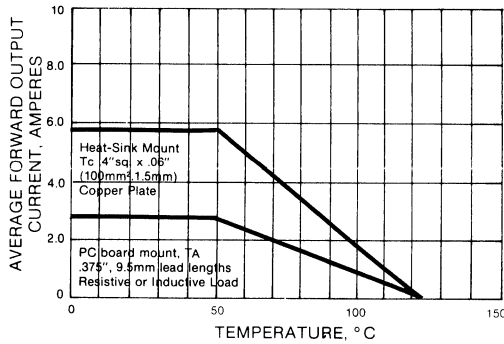
	RKBPC 6005	RKBPC 601	RKBPC 602	RKBPC 604	RKBPC 606	RKBPC 608	RKBPC 610	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Output Current at Tc = 50° C (Note 1) TA = 50° C (Note 2)	6.0 3.0							A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	125							A
Maximum Instantaneous Forward Voltage Drop per element at 3.0 ADC	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage per element TA = 25° C TA = 100° C	10.0 1.0							μA mA
Maximum Reverse Recovery Time (Note 3)	200			350			500	ns
Operating Temperature Range Tc	-55 to +125							°C
Storage Temperature Range Tstg	-55 to +150							°C

NOTES:

1. Unit mounted on 4x.06" thick (100mm $\times$ 1.5mm) copper plate.
2. Unit mounted on P.C. board with .375", 9.5mm lead lengths.
3. Measured with IF = .5A, IR = 1A, I_{rr} = .25A.

RATING AND CHARACTERISTIC CURVES **RKBPC6 SERIES**

**FIG. 1 — DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT**



**FIG. 3 — MAXIMUM NON-REPETITIVE
PEAK FORWARD SURGE CURRENT**

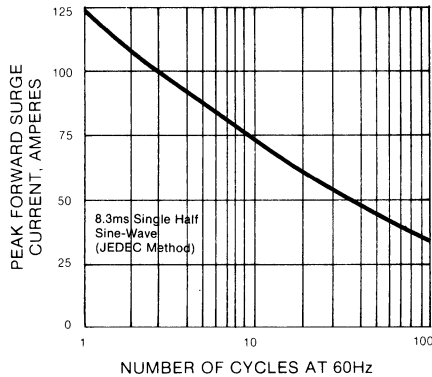
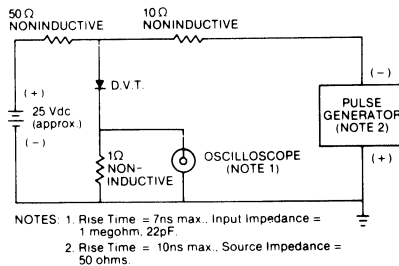
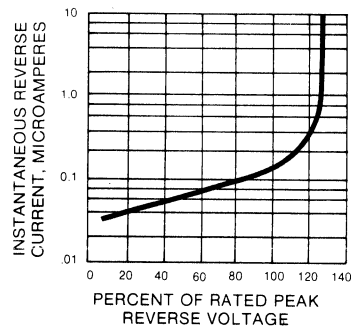


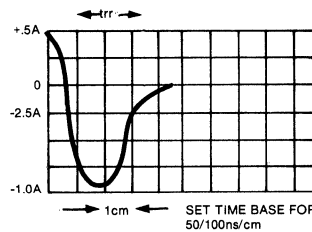
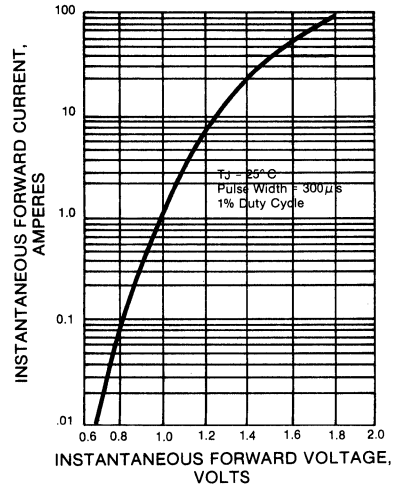
FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



**FIG. 2 — TYPICAL REVERSE
CHARACTERISTICS**



**FIG. 4 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS**



RKBPC8 SERIES

8 AMPERE FAST-RECOVERY SINGLE-PHASE SILICON BRIDGE

GENERAL
INSTRUMENT



FEATURES

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed internal rectifiers
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Fast switching—for high efficiency
- Typical I_R less than $1 \mu A$
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed $250^\circ C/10$ seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Void-free plastic package

Terminals: Axial leads, solderable per MIL-STD-202 Method 208

Mounting: Thru hole for #6 screw

Mounting position: Any

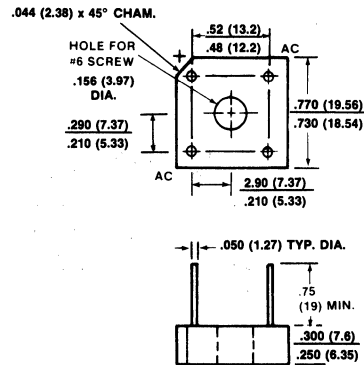
Weight: 0.24 ounce, 6.9 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

8.0 Amperes



Polarity shown on side of case:
positive lead by beveled corner.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

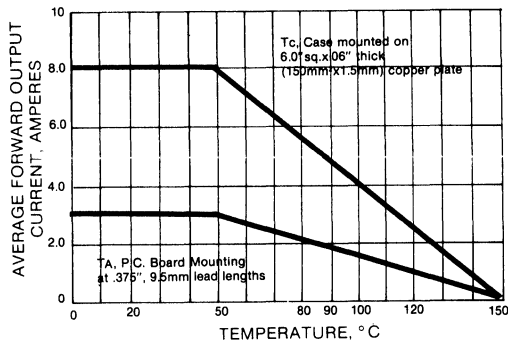
	RKBPC 8005	RKBPC 801	RKBPC 802	RKBPC 804	RKBPC 806	RKBPC 808	RKBPC 810	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Output Current Tc = 50° C (Note 1) TA = 50° C (Note 2)	8.0 3.0							A A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load	100							A
Maximum Instantaneous Forward Voltage Drop per element at 3.0A	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage per element TA = 25° C Tc = 100° C	10.0 1.0							μA mA
Maximum Reverse Recovery Time (Note 3)	200				350		500	ns
Maximum Thermal Resistance RθJC (Note 1)	10							°C/W
Operating Temperature Range Tc	-55 to +150							°C
Storage Temperature Range Tstg	-55 to +150							°C

NOTES:

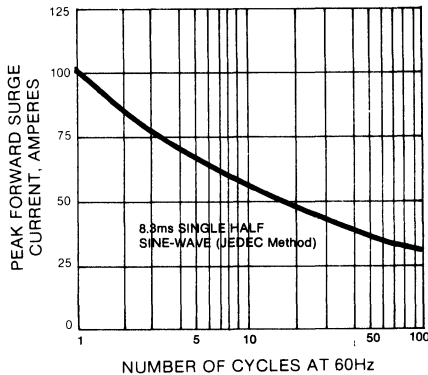
1. Unit mounted on 6.0" sq. x .06" thick (150mm² x 1.5mm) copper plate.
2. Unit mounted on P.C. board at .375", 9.5mm lead lengths
3. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$.

**RATING AND CHARACTERISTIC CURVES
RKBPc8 SERIES**

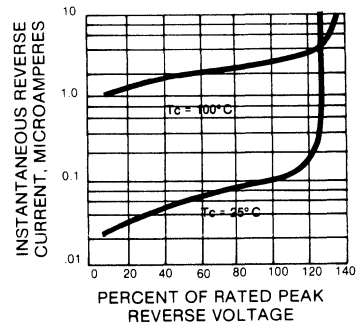
**FIG. 1 — DERATING CURVE FOR AVERAGE
OUTPUT RECTIFIED CURRENT**



**FIG. 3 — MAXIMUM NON-REPETITIVE
PEAK FORWARD SURGE CURRENT**



**FIG. 2 — TYPICAL REVERSE
CHARACTERISTICS**



**FIG. 4 — TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS
PER ELEMENT**

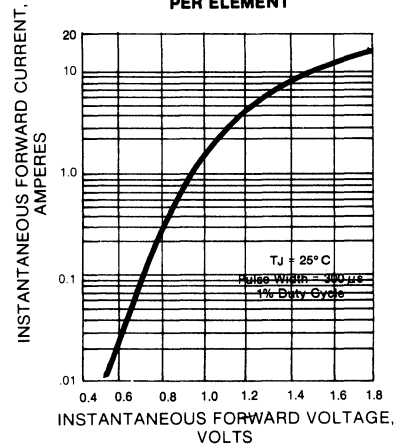
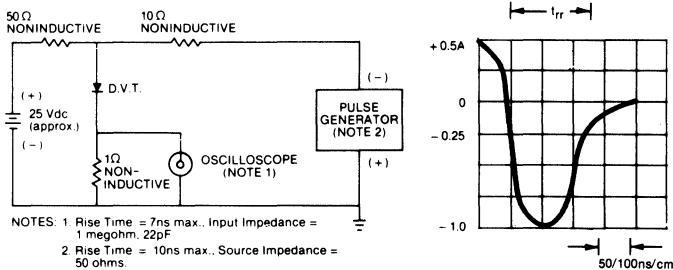


FIG. 5 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

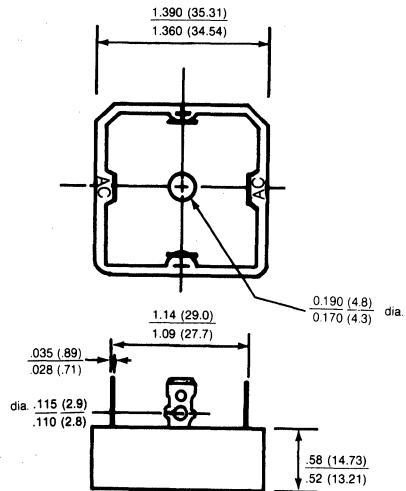


HIGH CURRENT FAST RECOVERY SINGLE-PHASE SILICON BRIDGE



- Plastic case with an electrically isolated aluminum heatsink
- Electrically isolated base-1800 volts
- 400 ampere surge capability
- Fast recovery for high efficiency
- Solderable .25" FASTON terminals
- Polarity embossed on case
- Weight: 1.32 ounce, 37 grams
- Mounting Torque: 20 in. lb. max.

35 Amperes

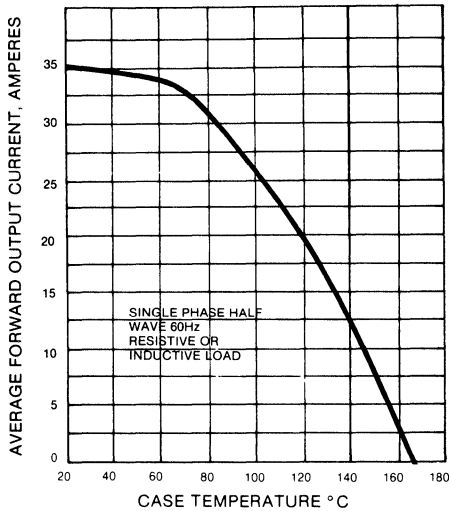


For capacitive load, derate current by 20%.

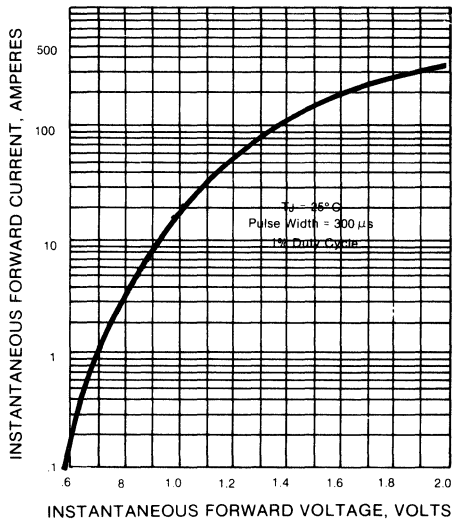
2. Reverse Recovery Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $IRR = 0.25A$

RATING AND CHARACTERISTIC CURVES
RGB3500 SERIES

**Fig. 1—FORWARD OUTPUT CURRENT
 DERATING CURVE**



**FIG. 2—TYPICAL INSTANTANEOUS FORWARD
 CHARACTERISTICS**



**FIG. 3 — MAXIMUM NON-REPETITIVE PEAK
 FORWARD SURGE CURRENT**

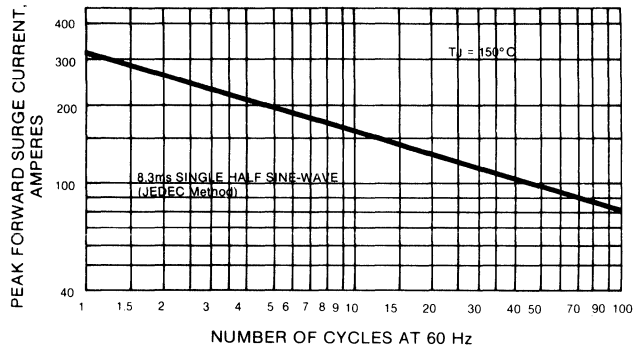


Fig. 4—TYPICAL REVERSE CHARACTERISTICS

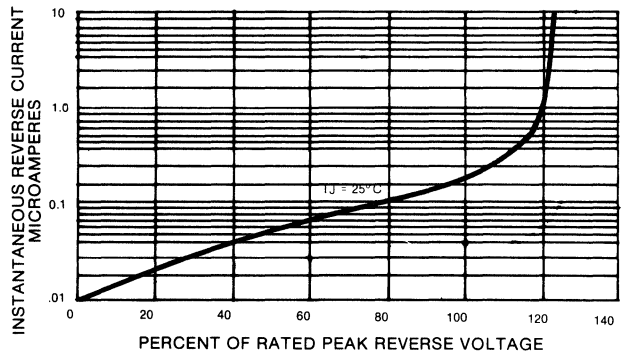
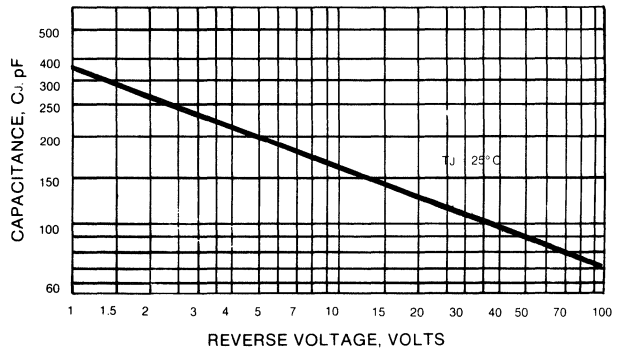


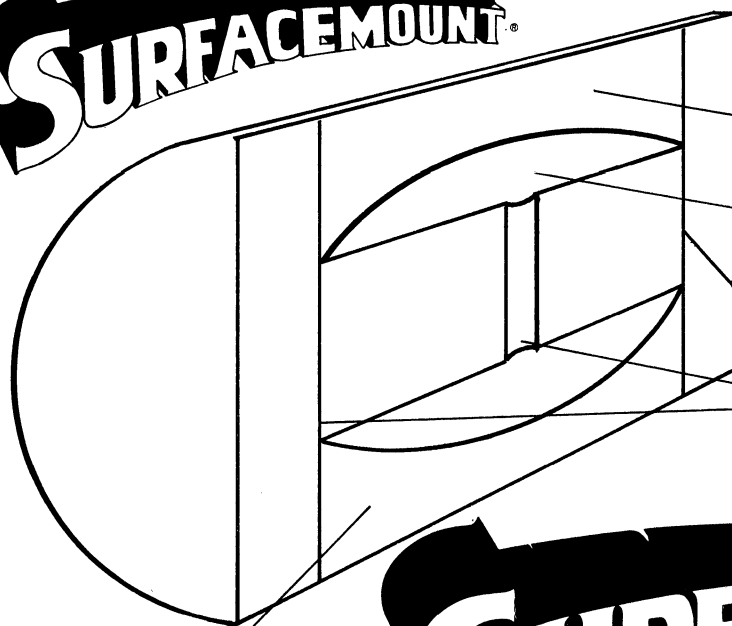
Fig. 5—TYPICAL JUNCTION CAPACITANCE





SURFACE MOUNTED SUPERECTIFIERS

SURFACEMOUNT®



COMPLETELY ENCAPSULATED
BRAZED CONSTRUCTION

CAVITY-FREE OPAQUE GLASS-
PASSIVATED JUNCTION

SOLID BRAZING, LOW RESISTANCE,
EXCELLENT SURGE CAPABILITIES
BRAZED-TEMP. > 600°C

UL RECOGNIZED
FLAME-RETARDANT
MOLDING COMPOUND (UL 94V-0)

SUPERECTIFIER®
PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Our surface mount SUPERECTIFIER has redefined the concept of time and space. Passivated silicon SUPERECTIFIERS (IN6478-IN6484 and GL41A-GL41M) are 1 amp, 50-1000 PRV, leadless, surface mounted devices that provide new space options, from increased surface density at reduced board size. Component placement speeds can be an order of magnitude higher. Our surface mount SUPERECTIFIERS feature:

Brazing at greater than 600°C at both terminal and cell — eliminates all soft solders

Exclusive UL recognized flame-retardant epoxy molding compound rated 94V-0, the highest available Hermetically sealed construction

No other 1 to 3 Ampere rectifier of any kind — plastic, glass or metal — can match our surface mount SUPERECTIFIER features.

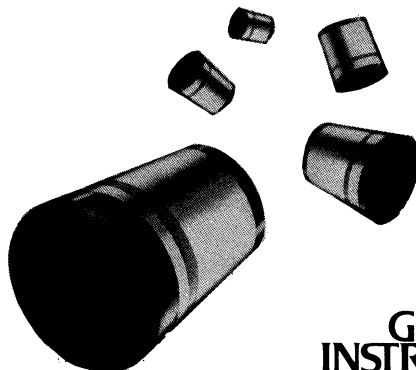
The way we make our surface mount SUPERECTIFIER is what makes them the best.

In cell construction, most other rectifiers rated up to 3 Amperes are soldered or are only pressure contacted. Our surface mounted SUPERECTIFIER is made into an entirely solid unit with leads and cell brazed at temperatures greater than 600°C. All other rectifiers fail at half that temperature!

Conventional plastic rectifiers use either varnish, silicone rubber or a thin film of silicon oxide to protect the junction. Our surface mount SUPERECTIFIER uses a patented glass passivation to seal its junction hermetically.

In device encapsulation, our surface mount SUPERECTIFIER uses a flame-RETARDANT molding compound, rated UL 94V-0, the highest rating available. *In fact, it is the only plastic rectifier that exceeds environmental standards of MIL-STD-19500.*

In summary, the General Instrument surface mount SUPERECTIFIER is the world's only rectifier with totally brazed construction, with a patented glass passivated junction, and with flame-retardant molding encapsulation.



**GENERAL
INSTRUMENT**

Silicon Chips

General Instrument's Silicon Chips are available in a large variety of current and voltage types.

Chips with standard, fast, and ultrafast recovery times, as well as high efficiency Schottky rectifiers are available.

Each General Instrument chip is a glass passivated junction* which offers easily solderable metallization as well as high surge current capability, making them ideal for hybrid circuit applications.

Types:

GPP 1 and 5 amp, standard recovery times
 RGPP 1 and 5 amp, fast recovery times
 EFR 1, 3, 5, and 8 amp, ultrafast recovery times
 SCH 1, 3, 5, and 10 amp Schottky

*Schottky chips are oxide passivated

	Standard Recovery		Fast Recovery		Ultrafast Recovery				Schottky			
TYPE	GPP1A thru GRP1M	GPP5A thru GPP5K	RGPP1A thru RGPP1K	RGPP5A thru RGPP5K	EFR1A thru ERF1D	EFR3A thru ERF3D	EFR5A thru ERF5D	EFR8A thru EFR8D	SCH120 thru SCH160	SCH320 thru SCH360	SCH520 thru SCH560	SCH1020 thru SCH1060
I_s (A)	1.0	5.0	1.0	5.0	1.0	3.0	5.0	8.0	1.0	3.0	5.0	10.0
@ T_A (°C)	75	100	75	100	75	75	75	75	60	60	100	100
$V_R = 20$ (V)									SCH120	SCH320	SCH520	SCH1020
$V_R = 30$ (V)									SCH130	SCH330	SCH530	SCH1030
$V_R = 40$ (V)									SCH140	SCH340	SCH540	SCH1040
$V_R = 50$ (V)	GPP1A	GPP5A	RGPP1A	RGPP5A	EFR1A	EFR3A	EFR5A	EFR8A	SCH150	SCH350	SCH550	SCH1050
$V_R = 60$ (V)									SCH160	SCH360	SCH560	SCH1060
$V_R = 100$ (V)	GPP1B	GPP5B	RGPP1B	RGPP5B	EFR1B	EFR3B	EFR5B	EFR8B				
$V_R = 150$ (V)					ERF1C	ERF3C	ERF5C	ERF8C				
$V_R = 200$ (V)	GPP1D	GPP5D	RGPP1D	RGPP5D	EFR1D	EFR3D	EFR5D	EFR8D				
$V_R = 400$ (V)	GPP1G	GPP5G	RGPP1G	RGPP5G								
$V_R = 600$ (V)	GPP1J	GPP5J	RGPP1J	RGPP5J								
$V_R = 800$ (V)	GPP1K	GPP5K	RGPP1K	RGPP5K								
$V_R = 1000$ (V)	GPP1M											
SURGE (A)	60	150	30	150	50	75	125	300	100	200	250	300
V_F (V)	1.1	1.1	1.3	1.3	0.9	0.9	0.9	0.9	0.5/0.75	0.5/0.75	0.65	0.65
Page	400	400	402	402	404	404	404	404	406	406	406	406

Surface Mount Superectifiers

Features:

- High Temperature Metallurgically Bonded
- Plastic Package has Underwriters Laboratory Classification 94V-0
- Glass Passivated Junction
- Exceeds Environmental Standards of MIL-STD-19500
- High Temperature Soldering Guaranteed for all present methods, including wave and vapor reflow soldering

Types:

1N6478-1N6484 1 amp, Standard Recovery Times
 GL41A-GL41M 1 amp, Standard Recovery Times
 RGL41A-RGL41M 1 amp, Fast Recovery Times
 EGL41A-EGL41G 1 amp, Ultrafast Recovery Times
 GL27A-GL27M 3 amp, Standard Recovery Times
 RGL27A-RGL27M 3 amp, Fast Recovery Times
 EGL27A-EGL27G 3 amp, Ultrafast Recovery Times

Quick Guide To Surface Mount Superectifiers

TYPE	1N6478 thru 1N6484	GL41A thru GL41M	RGL41A* thru RGL41M*	GL27A thru GL27M	RGL27A* thru RGL27M*	EGL41+ thru EGL41G+	EGL27A+ thru EGL27G+
CASE	GL41	GL41	GL41	GL27	GL27	GL41	GL27
I _o (A)	1.0	1.0	3.0	3.0	3.0	1.0	3.0
@ T _A (°C)	75	75	55	55	55	75	55
V _R = 50 (V)	1N6478	GL41A	RGL41A	GL27A	RGL27A	EGL41A	EGL27A
V _R = 100 (V)	1N6479	GL41B	RGL41B	GL27B	RGL27B	EGL41B	EGL27B
V _R = 150 (V)						EGL41C	EGL27C
V _R = 200 (V)	1N6480	GL41D	RGL41D	GL27D	RGL27D	EGL41D	EGL27D
V _R = 300 (V)						EGL41F	EGL27F
V _R = 400 (V)	1N6481	GL41G	RGL41G	GL27G	RGL27G	EGL41G	EGL27G
V _R = 600 (V)	1N6482	GL41J	RGL41J	GL27J	RGL27J		
V _R = 800 (V)	1N6483	GL41K	RGL41K	GL27K	RGL27K		
V _R = 1000 (V)	1N6484	GL41M	RGL41M	GL27M	RGL27M		
SURGE (A)	30	30	30	125	125	30	150
V _F (V)	1.0	1.1	1.3	1.1	1.3	1.0/1.25	1.0/1.25
Page	386	388	390	392	394	396	398

*Fast Recovery

+ Ultrafast Recovery

1N6478 THRU 1N6484

SURFACE MOUNT GLASS PASSIVATED SILICON RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- For Surface Mounted Applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed 450°C/5 seconds at terminals. Complete device submersible temperature of 265°C for 10 seconds in solder bath

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Solderable per MIL-STD-202, method 208

Polarity: Two bands indicate cathode

1st band denotes device type

2nd band denotes voltage type

Mounting Position: Any

Handling precautions: None

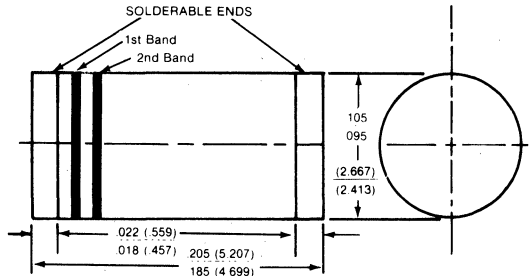
Weight: 0.013 gram, 0.0046 ounce

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Standard recovery time device: 1st band is white	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	Units
* Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
* Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
* Maximum Average Forward Rectified Current T _A = 75°C	1.0							A
* Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
* Maximum Instantaneous Forward Voltage at 1.0A T _A = 75°C T _A = 25°C	1.0 1.1							V V
* Maximum Full Load Reverse Current, Full cycle Average at 75°C Ambient	30							μA
* Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C T _A = 175°C	10 200							μA
Typical Junction Capacitance (Note 1)	15							pF
* Maximum Thermal Resistance R _{thJA} (Note 2) R _{thJA} (Note 3)	20 50							°C/W
* Operating and Storage Temperature Range, T _J , T _{STG}	-65 to +175							°C
Polarity Color Bands (2nd Band)	Gray	Red	Orange	Yellow	Green	Blue	Violet	

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

2. Thermal resistance junction to terminal. 6.0mm² copper pads to each terminal.

3. Thermal resistance junction to ambient. 6.0mm² copper pads to each terminal.

* JEDEC Registered Value

RATING AND CHARACTERISTIC CURVES
1N6478 THRU 1N6484

FIG. 1 — FORWARD CURRENT DERATING CURVE

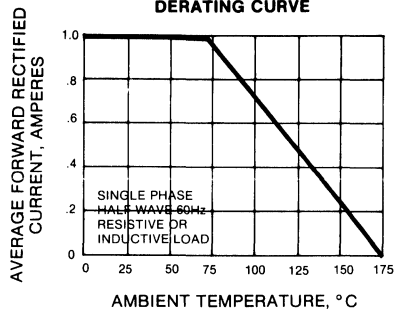


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

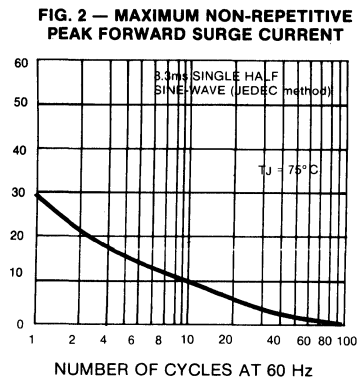


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

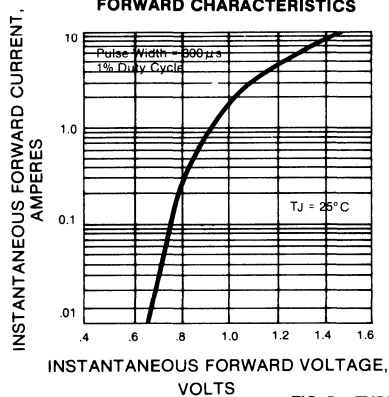


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

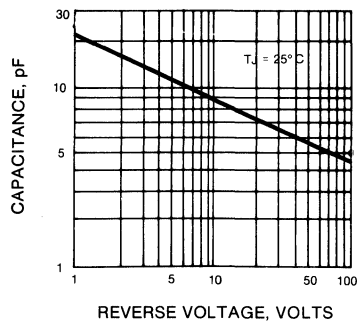
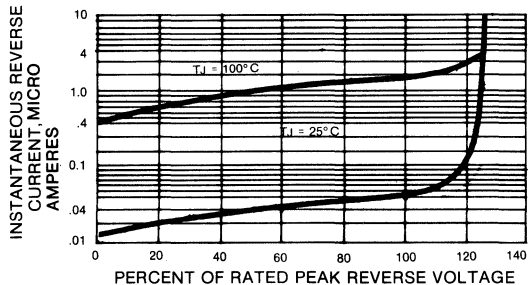


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



GL41A THRU GL41M

SURFACE MOUNT GLASS PASSIVATED SILICON RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- For surface mounted applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 450°C/ 5 seconds at terminals. Complete device submersible temperature of 265°C for 10 seconds in solder bath

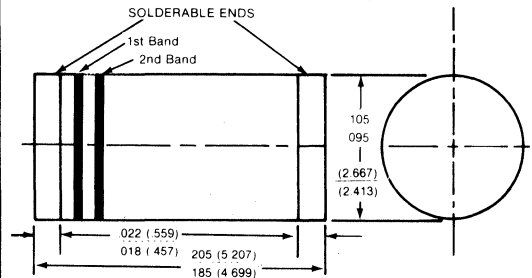
MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Solderable per MIL-STD-202, Method 208
Polarity: Two bands indicate cathode
1st band denotes device type
2nd band denotes voltage type
Mounting Position: Any
Handling precautions: None
Weight*: 0.013 gram, 0.0046 ounce

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
1.0 Ampere



All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Standard recovery time devices: 1st band is white.	GL41A	GL41B	GL41D	GL41G	GL41J	GL41K	GL41M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current TA = 75°C	1.0							A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	1.1							V
Maximum Full Load Reverse Current, Full cycle Average at 75°C Ambient	30							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C TA = 125°C	10 50.0							μA μA
Typical Junction Capacitance (Note 1)	15							pF
Maximum Thermal Resistance RthJA (Note 2) RthJA (Note 3)	30 75							°C/W
Operating and Storage Temperature Range, TJ, TSTG	-65 to +175							°C
Polarity Color Bands (2nd Band)	Gray	Red	Orange	Yellow	Green	Blue	Violet	

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC.

2. Thermal resistance junction to terminal, 6.0mm² copper pads to each terminal.
3. Thermal resistance junction to ambient, 6.0mm² copper pads to each terminal.

RATING AND CHARACTERISTIC CURVES
GL41A THRU GL41M

FIG. 1 — FORWARD CURRENT DERATING CURVE

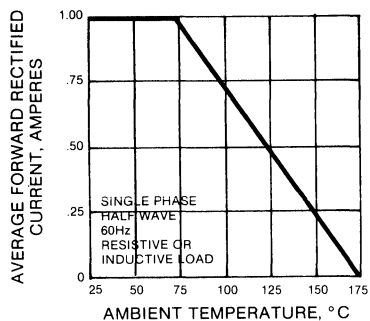


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

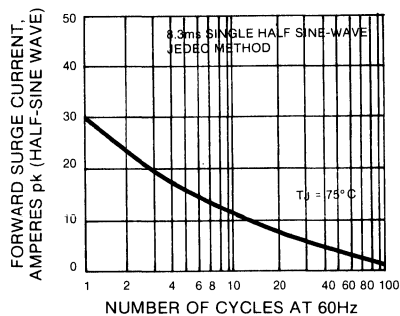


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

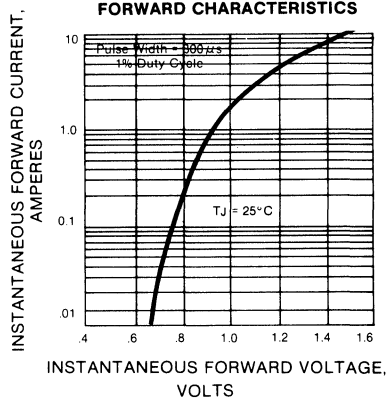


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

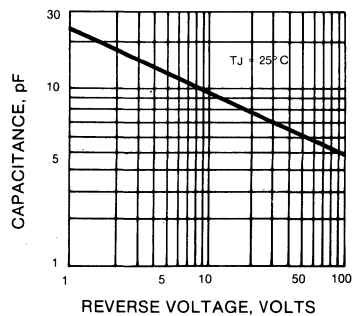
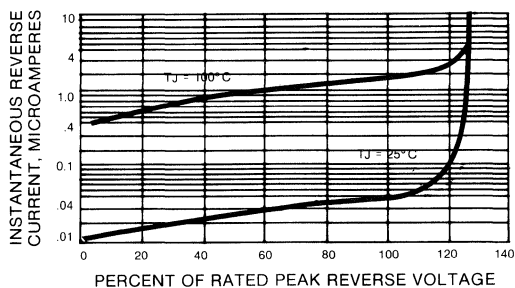


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



RGL41A THRU RGL41M

SURFACE MOUNT GLASS PASSIVATED FAST SWITCHING SILICON RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- For surface mounted applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed 450° C/5 seconds at terminals. Complete device submersible temperature 265° C for 10 seconds in solder bath

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Solderable per MIL-STD-202, method 208

Polarity: Two bands indicate cathode

1st band denotes device type

2nd band denotes voltage type

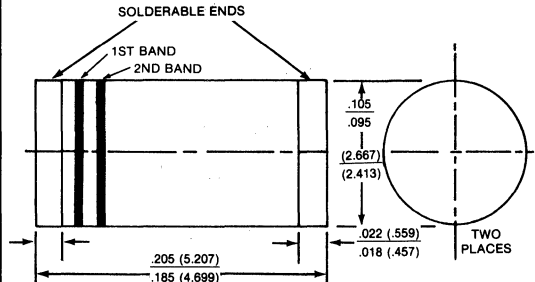
Mounting Position: Any

Handling precautions: None

Weight: 0.013 gram, 0.0046 ounce

VOLTAGE RANGE
50 to 1000 Volts

CURRENT
1.0 Ampere



PATENTED

Glass-plastic encapsulation technique is covered by Patent No. 3,990,602 of 1976; brazed-lead assembly by Patent No. 3,930,308 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Fast switching devices: 1st band is red.	RGL41A	RGL41B	RGL41D	RGL41G	RGL41J	RGL41K	RGL41M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _A = 55°C	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	1.3							V
Maximum Full Load Reverse Current, Full Cycle Average, T _A = 55°C	50							μ A
Maximum DC Reverse Current, at Rated DC Blocking Voltage	5.0 100							μ A
Maximum Reverse Recovery Time (Note 1)	150				250	500	500	ns
Typical Junction Capacitance (Note 2)	15							pF
Maximum Thermal Resistance	30 75							°C/W
Operating and Storage Temperature Range, T _J	-65 to +175							°C
Polarity Color Bands (2nd Band)	Gray	Red	Orange	Yellow	Green	Blue	Violet	

NOTES: 1. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. Thermal resistance junction to terminal, 6.0mm² copper pads to each terminal.

4. Thermal resistance junction to ambient, 6.0mm² copper pads to each terminal.

RATING AND CHARACTERISTIC CURVES **RGL41A THRU RGL41M**

FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

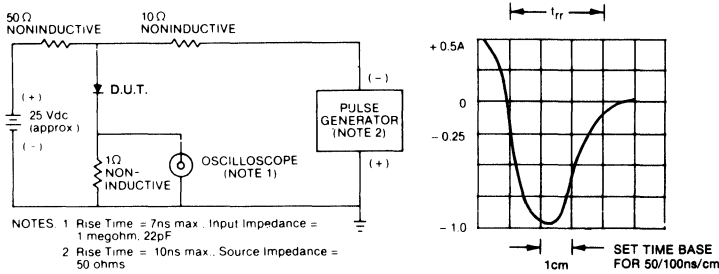


FIG. 2 — FORWARD CURRENT DERATING CURVE

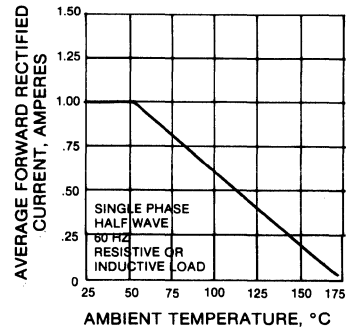
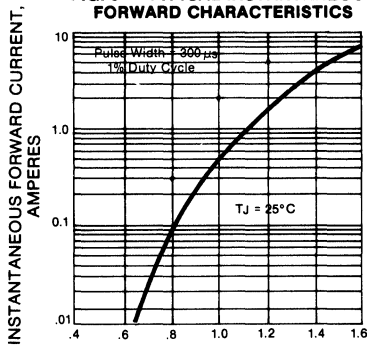


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG. 4 — TYPICAL JUNCTION CAPACITANCE

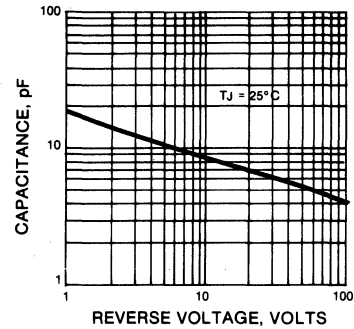


FIG. 5 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

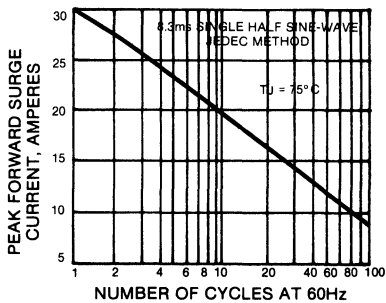
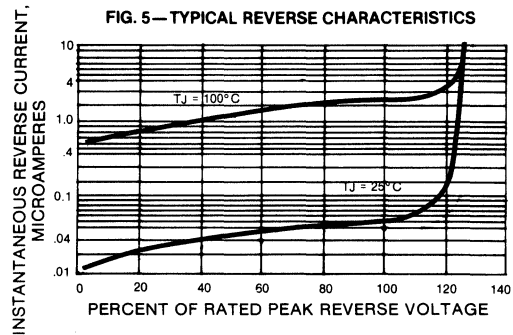


FIG. 5 — TYPICAL REVERSE CHARACTERISTICS



GL27 SERIES

SURFACE MOUNT GLASS PASSIVATED SILICON RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- For surface mounted applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 450°C/5 seconds at terminals. Complete device submersible temperature of 265°C for 10 seconds in solder bath

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Solderable per MIL-STD-202, Method 208

Polarity: Two bands indicate cathode

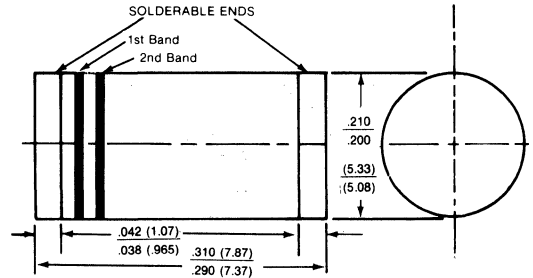
1st Band denotes device type

2nd Band denotes voltage type

Mounting Position: Any

Handling precautions: None

Weight: 0.04 ounce, 1.12 grams



All dimensions in inches and (millimeters)

PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings and 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

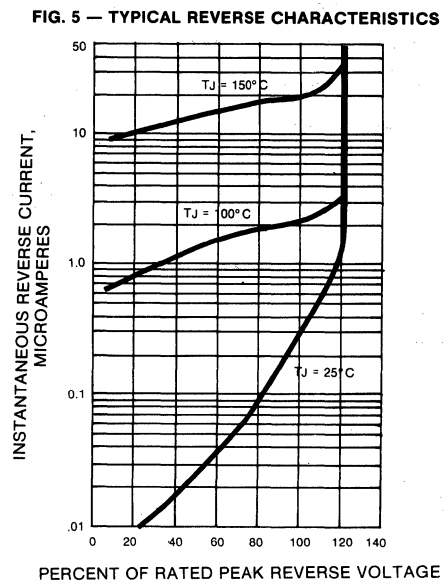
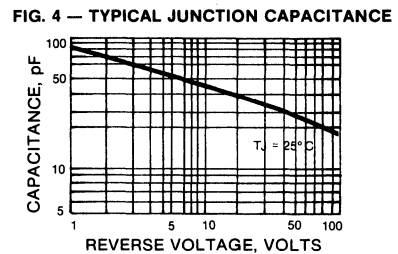
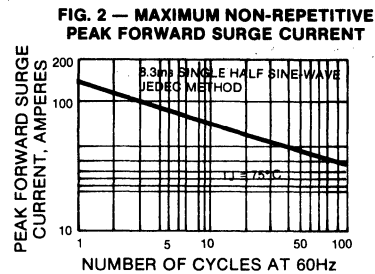
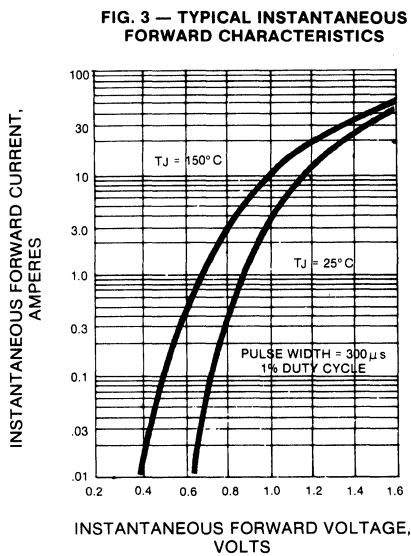
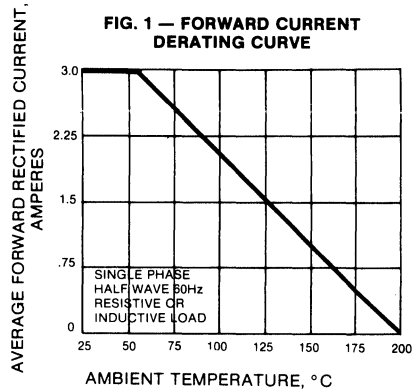
Standard recovery time devices: 1st band is white.	GL27A	GL27B	GL27D	GL27G	GL27J	GL27K	GL27M	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _A = 55°C	3.0							A
Peak Forward Surge Current, I _{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125							A
Maximum Instantaneous Forward Voltage at 3.0A	1.1							V
Maximum Full Load Reverse Current, Full Cycle Average, T _A = 55°C	100							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage	5.0 100							μA μA
Typical Junction Capacitance (Note 1)	60							pF
Maximum Thermal Resistance	8.0 45							°C/W
Operating and Storage Temperature Range, T _J , T _{STG}	-65 to +200							°C
Polarity Color Bands (2nd band)	Gray	Red	Orange	Yellow	Green	Blue	Violet	

NOTES:

1. Measured at 1.0MHz and applied reverse voltage of 4.0VDC.

2. Thermal resistance junction to terminal, 384 in², 10mm² copper pads to each terminal.
2. Thermal resistance junction to ambient, 384 in², 10mm² copper pads to each terminal.

**RATINGS AND CHARACTERISTIC CURVES
GL27 SERIES**



RGL27 SERIES

SURFACE MOUNT GLASS PASSIVATED FAST SWITCHING SILICON RECTIFIER

**GENERAL
INSTRUMENT**



FEATURES

- For surface mounted applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed 450°C/5 seconds at terminals. Complete device submersible temperature of 265°C for 10 seconds in solder bath

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Solderable per MIL-STD-202 Method 208

Polarity: Two bands indicate cathode
1st band denotes device type
2nd band denotes voltage type

Mounting Position: Any

Handling precautions: None

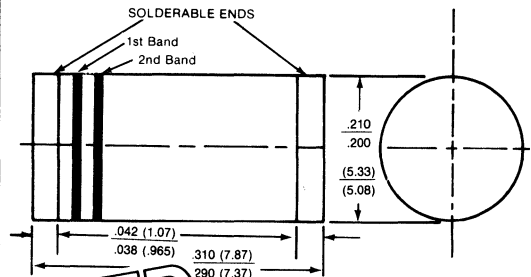
Weight: 0.04 ounce, 1.12 grams

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

3.0 Amperes



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976, brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Fast switching devices: 1st band is red.	RGL27A	RGL27B	RGL27D	RGL27G	RGL27J	RGL27K	RGL27M	Units	
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current at T _A = 55°C	3.0							A	
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	125							A	
Maximum Instantaneous Forward Voltage at 3.0A	1.3							V	
Maximum Full Load Reverse Current, Full Cycle Average, T _A = 55°C	100							μA	
Maximum DC Reverse Current, at Rated DC Blocking Voltage	5.0 100							μA μA	
Maximum Reverse Recovery Time (Note 1)	150				250	500	500	ns	
Typical Junction Capacitance (Note 2)	60							pF	
Maximum Thermal Resistance	R _{thJL} (Note 2) R _{thJA} (Note 3)							10 50	°C/W
Operating and Storage Temperature Range T _J , T _{STG}	-65 to +200							°C	
Polarity Color Bands (2nd band)	Gray	Red	Orange	Yellow	Green	Blue	Violet		

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = .25\text{A}$.
2. Measure at 1 MHz and applied reverse voltage of 4.0 volts.

3. Thermal resistance junction to terminal, .394 in², 10mm² copper pads to each terminal.
4. Thermal resistance junction to ambient, .394 in², 10mm² copper pads to each terminal.

RATING AND CHARACTERISTIC CURVES **RGL27 SERIES**

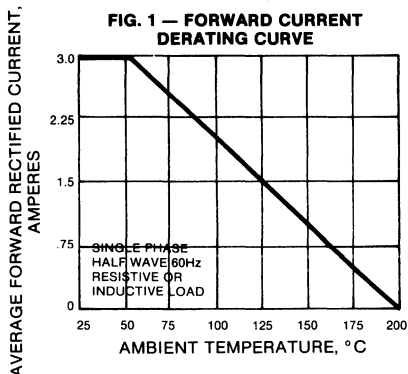


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

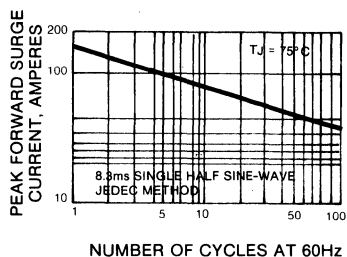


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

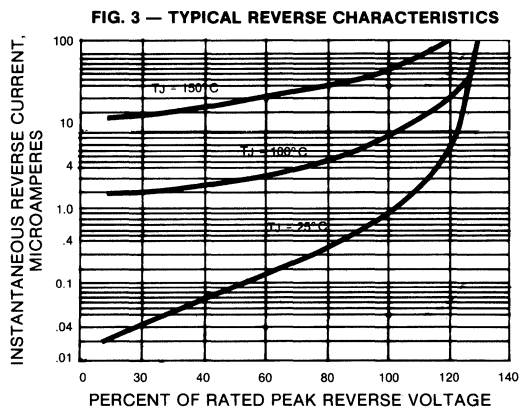
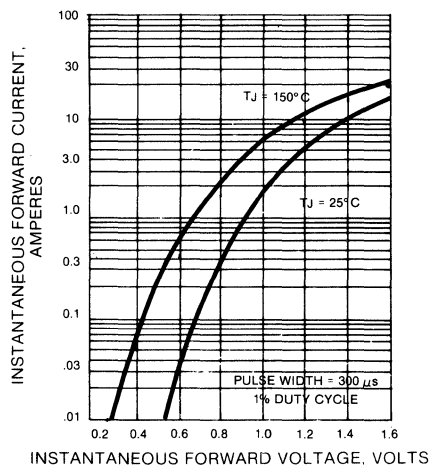
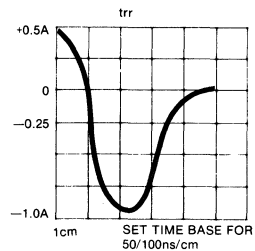
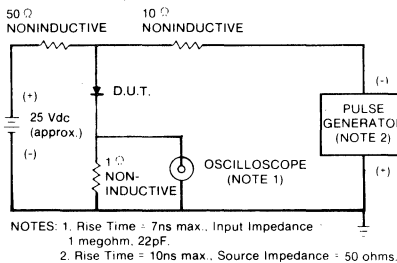
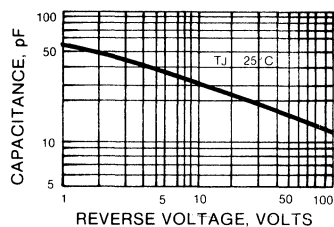


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

FIG. 5 — TYPICAL JUNCTION CAPACITANCE



EGL41 SERIES

SURFACE MOUNT GLASS PASSIVATED FAST EFFICIENT SILICON RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- For surface mounted applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Superfast recovery times for high efficiency
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Exceeds environmental standards of MIL-STD-19500.
- High temperature soldering guaranteed 450°C/ 5 seconds at terminals. Complete device submersible temperature of 265°C for 10 seconds in solder-bath

MECHANICAL DATA

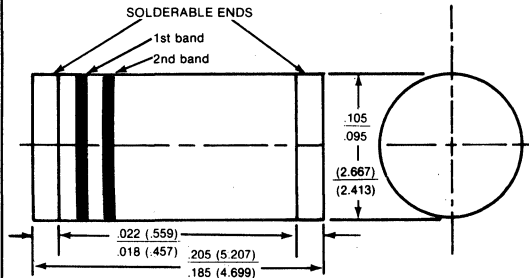
Case: Molded plastic over glass
Terminals: Solderable per MIL-STD-202, method 208
Polarity: Two bands indicate cathode
1st band denotes device type
2nd band denotes voltage type
Mounting Position: Any
Handling precautions: None
Weight: 0.013 gram, 0.0046 ounce

VOLTAGE RANGE

50 to 400 Volts

CURRENT

1.0 Ampere



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,996,802 of 1976; brazed-lead assembly to Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

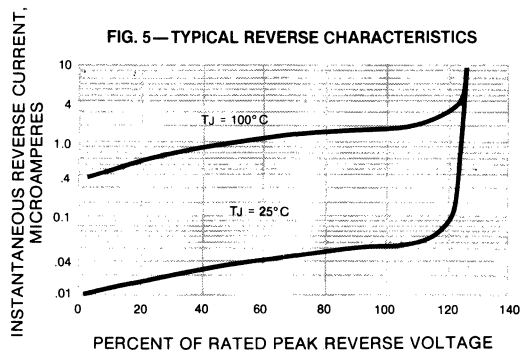
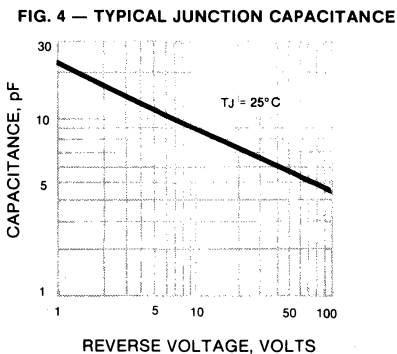
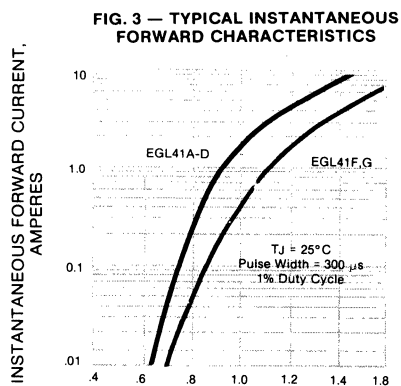
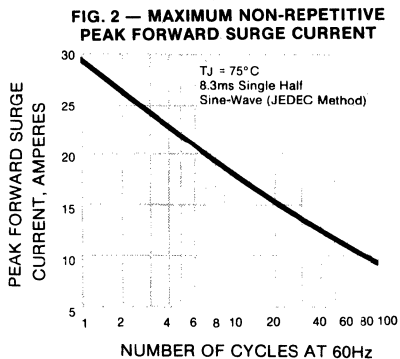
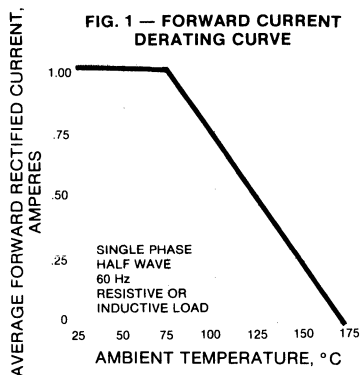
Fast efficient devices: 1st band is green.	EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Rectified Current at T _A = 75°C	1.0						A
Peak Forward Surge Current, IFM (Surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30.0						A
Maximum Instantaneous Forward Voltage at 1.0A	1.0				1.25		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	5.0 50.0						μA
Maximum Reverse Recovery Time (Note 1)	50.0						ns
Typical Junction Capacitance (Note 2)	15						pF
Maximum Thermal Resistance R _{thJL} (Note 3) R _{thJA} (Note 4)	30 60						°C/W
Operating and Storage Temperature Range T _J , T _{STG}	-65 to + 175						°C
Polarity Color Bands (2nd band)	Gray	Red	Pink	Orange	Brown	Yellow	

NOTES:

1. Reverse Recovery Test Conditions: IF = .5A, IR = 1A, Irr = .25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

3. Thermal resistance junction to terminal, 6.0mm² copper pads to each terminal.
4. Thermal resistance junction to ambient, 6.0mm² copper pads to each terminal.

RATING AND CHARACTERISTIC CURVES
EGL41A THRU EGL41G



EGL27 SERIES

ULTRAFAST SURFACE MOUNT GLASS PASSIVATED SILICON RECTIFIER

SUPERECTIFIER

**GENERAL
INSTRUMENT**

FEATURES

- Ultrafast Recovery Times for high efficiency
- For surface mounted applications
- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 450°C/5 seconds at terminals. Complete device submersible temperature of 265°C for 10 seconds in solder bath

MECHANICAL DATA

Case: Molded plastic over glass
Terminals: Solderable per MIL-STD-202, Method 208

Polarity: Two bands indicate cathode
1st band denotes device type
2nd band denotes voltage type

Mounting Position: Any

Handling precautions: None

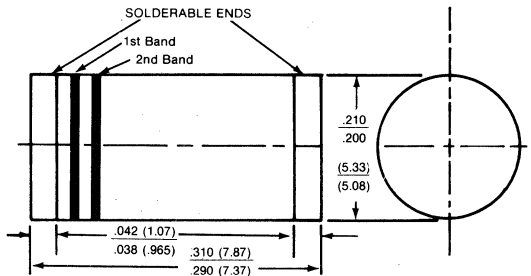
Weight: 0.04 ounce, 1.12 grams

VOLTAGE RANGE

50 to 400 Volts

CURRENT

3.0 Amperes



PATENTED
Glass-plastic encapsulation technique is covered by Patent No. 3,993,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

All dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	EGL27A	EGL27B	EGL27C	EGL27D	EGL27F	EGL27G	UNITS
Fast efficient devices: 1st band is green.							
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	V
Maximum RMS Voltage	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	V
Maximum Average Forward Rectified Current at $T_A = 55^\circ\text{C}$	3.0						A
Peak Forward Surge Current, I_{FM} (surge): 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	150						A
Maximum Instantaneous Forward Voltage at 3.0A	1.0				1.25		V
Maximum Full Load Reverse Current, Full Cycle Average, $T_A = 55^\circ\text{C}$	100						μA
Maximum Reverse DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$					10 200		μA
Maximum Reverse Recovery Time (Note 1)	50						ns
Typical Junction Capacitance (Note 2)	100						pF
Maximum Thermal Resistance R_{thJL} (Note 3) R_{thJA} (Note 4)					8.0 45		$^\circ\text{C/W}$
Operating and Storage Temperature Range, T_J , T_{STG}	-65 to +200						$^\circ\text{C}$
Polarity Color Bands (2nd band)	Gray	Red	Pink	Orange	Brown	Yellow	

NOTES:

1. Reverse Recovery Test Conditions: $I_F = .5A$, $I_R = 1.0A$, $I_{RR} = .25A$.
2. Measure at 1 MHz and applied reverse voltage of 4.0 volts.

3. Thermal resistance junction to terminal, .394 in², 10mm² copper pads to each terminal.
4. Thermal resistance junction to ambient, .394 in², 10mm² copper pads to each terminal.

RATINGS AND CHARACTERISTIC CURVES
EGL27 SERIES

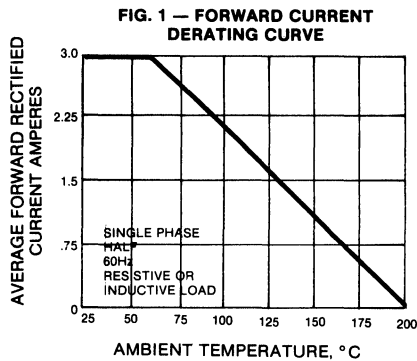


FIG. 3 — TYPICAL FORWARD CHARACTERISTICS

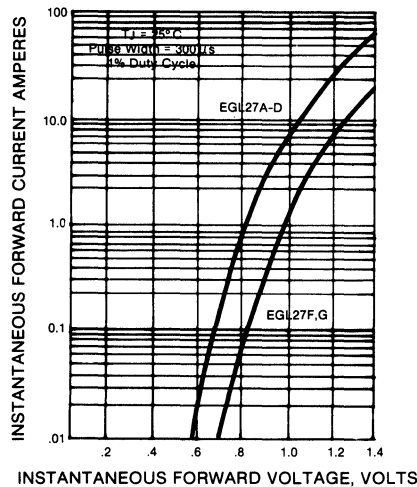


FIG. 2 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

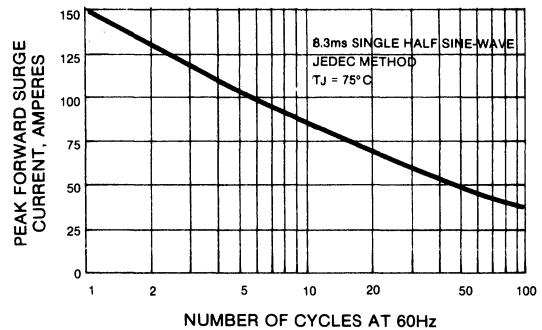


FIG. 4 — TYPICAL REVERSE CHARACTERISTICS

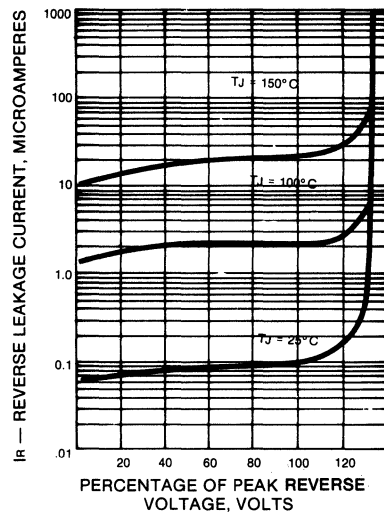


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

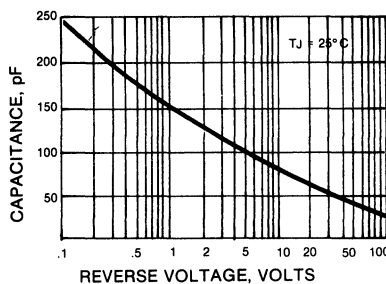
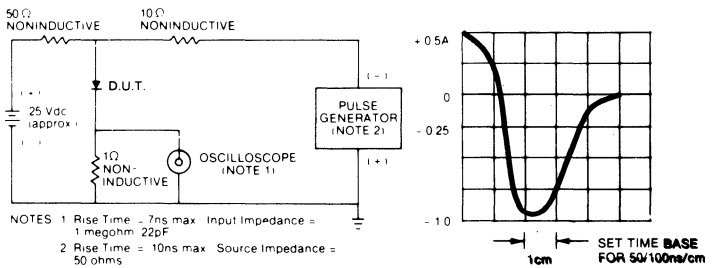


FIG. 6 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



GPP1 & GPP5 SERIES

GLASS PASSIVATED RECTIFIER CHIPS

GENERAL
INSTRUMENT

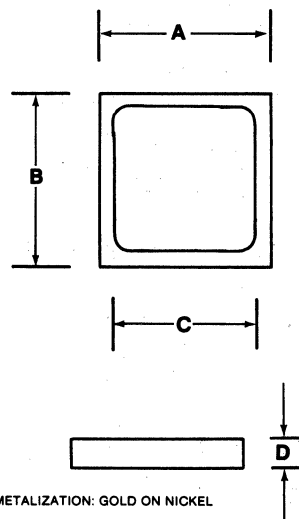


FEATURES

- Ideal for Hybrid Circuits
- Solderable Metalization
- Typical I_R less than $1\mu A$
- Glass Passivated Junction
- High Surge Capability
- Mounting Position: Any

	Dimension A	Dimension B	Dimension C	Dimension D
GPP1	.082 (1.6) .058 (1.5)	.082 (1.6) .058 (1.5)	.048 (1.2) .044 (1.1)	.010 (.25) .008 (.20)
GPP5	.102 (2.6) .098 (2.5)	.102 (2.6) .098 (2.5)	.088 (2.2) .082 (2.1)	.010 (.25) .008 (.20)

Dimensions in inches (millimeters)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Single phase half sine-wave 60 Hz resistive or inductive load.

For capacitive load derate current by 20%

All ratings are for $T_A = 25^\circ C$ unless otherwise specified

	GPP1A GPP5A	GPP1B GPP5B	GPP1D GPP5D	GPP1G GPP5G	GPP1J GPP5J	GPP1K GPP5K	GPP1M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current (Note 1) GPP1 $T_A = 75^\circ C$ GPP5 $T_A = 100^\circ C$	1.0 5.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) GPP1 GPP5	60 150							A
Maximum Forward Voltage at specified current (Pulse width = 300 μ S, Duty Factor = 1%) GPP1 $I_F = 1.0A$ GPP5 $I_F = 5.0A$	1.1 1.1							V
Maximum Reverse Leakage Current at Rated DC Blocking Voltage GPP1 GPP5	5.0 10.0							μA
Operating and Storage Temperature Range T_J, T_{STG}	-65 to + 175							$^\circ C$

NOTES: 1. Actual rating is heat sink dependent.

RATING AND CHARACTERISTIC CURVES
GPP1 and GPP5 SERIES

Fig. 1—FORWARD CURRENT DERATING CURVE

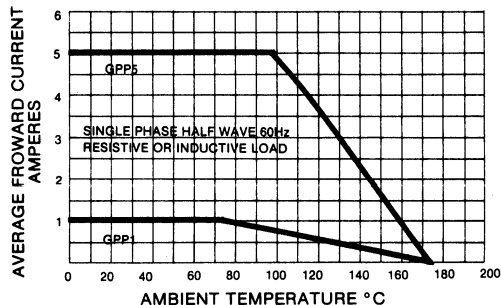


Fig. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

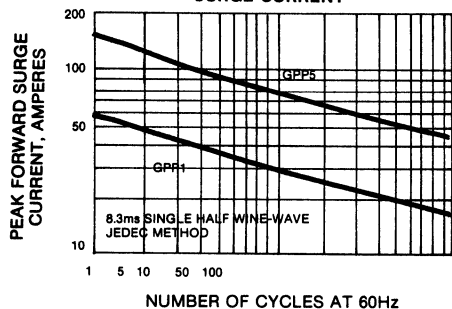


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

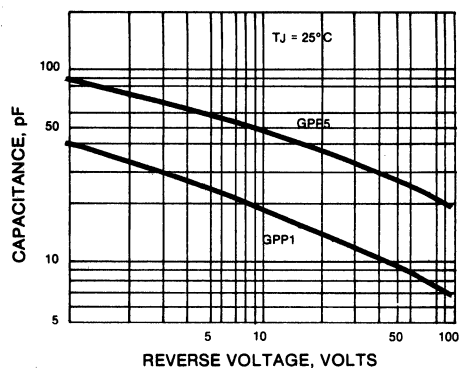


Fig. 2—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

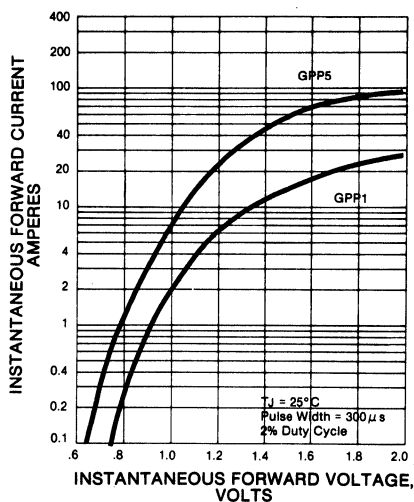
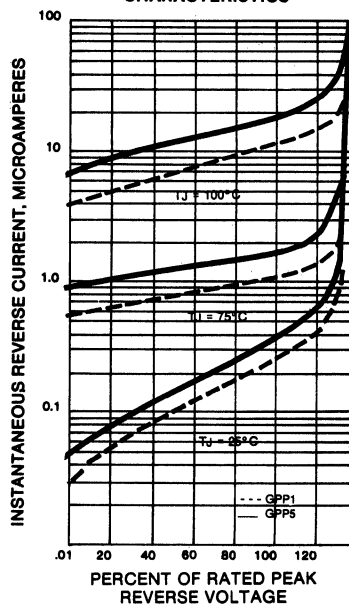


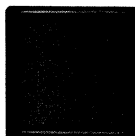
Fig. 4—TYPICAL REVERSE CHARACTERISTICS



RGPP1 & RGPP5 SERIES

FAST RECOVERY GLASS PASSIVATED RECTIFIER CHIPS

**GENERAL
INSTRUMENT**



FEATURES

- Ideal for Hybrid Circuits
- Solderable Metalization
- Glass Passivated Junction
- High Surge Capability
- Mounting Position: Any

	Dimension A	Dimension B	Dimension C	Dimension D
RGPP1	.062 (1.6)	.062 (1.6)	.048 (1.2)	.010 (.25)
	.058 (1.5)	.058 (1.5)	.044 (1.1)	.008 (.20)
	A	B	C	D
RGPP5	.102 (2.6)	.102 (2.6)	.082 (2.1)	.012 (0.3)
	.098 (2.5)	.098 (2.5)	.078 (2.0)	.010 (0.25)

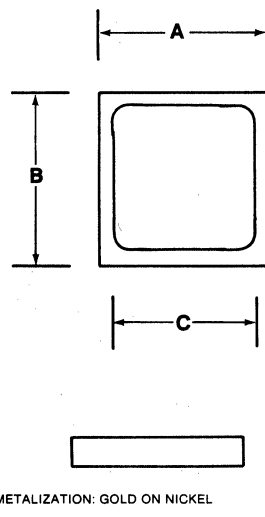
Dimensions in inches (millimeters)

VOLTAGE RANGE

50 to 800 Volts

CURRENT

1.0 and 5.0 Amperes



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	RGPP1A RGPP5A	RGPP1B RGPP5B	RGPP1D RGPP5D	RGPP1G RGPP5G	RGPP1J RGPP5J	RGPP1K RGPP5K	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Voltage	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current	RGPP1 T _A = 75°C 1.0 RGPP5 T _A = 100°C 5.0						A
Peak Forward Surge Current, 8.3msec, single half sine-wave Superimposed on rated load (JEDEC Method)	RGPP1 30.0 RGPP5 150.0						A
Maximum Forward Voltage at Rated Forward Current (Pulse Width = 300μS, Duty Factor = 1%)	1.3						V
Max Reverse Leakage Current at Rated DC Blocking Voltage T _A = 25°C	RGPP1 10.0 RGPP5 25.0						μA
Maximum Reverse Recovery Time (Note 2)	150		200	250	350		ns
Operating and Storage Temperature Range T _J , T _{stg}	-65 to +150						°C

NOTES:

1. Actual ratings is heat sink dependent.
2. Reverse Recovery Test Conditions: IF = 0.5A, IR = 1.0A, I_{rr} = 0.25A.

RATING AND CHARACTERISTIC CURVES RGPP1 & RGPP5

Fig. 1—FORWARD CURRENT DERATING CURVE

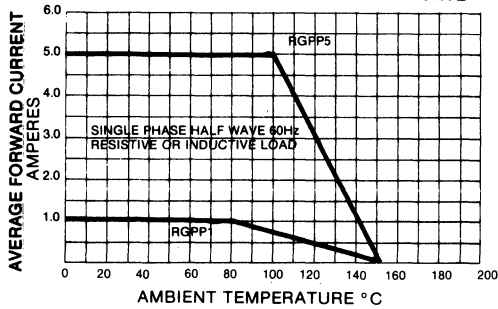


FIG. 3 — MAXIMUM NON-REPETITIVE SURGE CURRENT

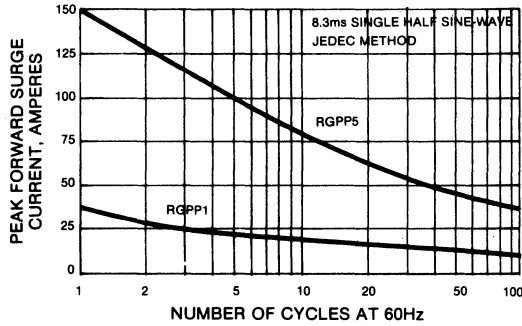


FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST DIAGRAM

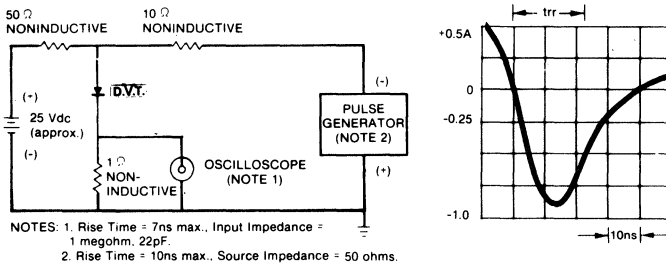


Fig. 2—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

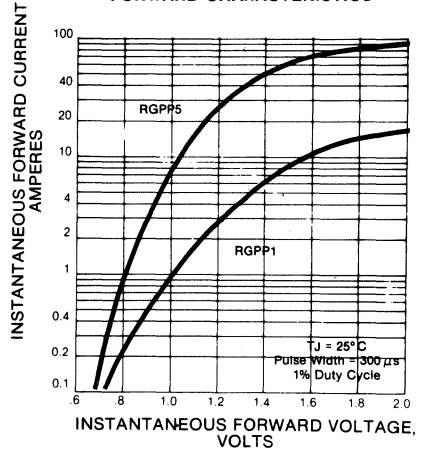
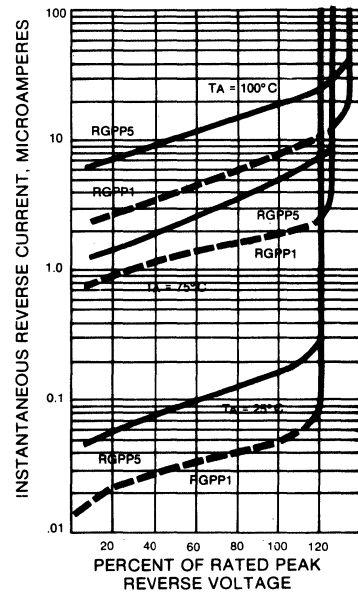


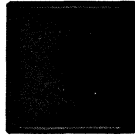
Fig. 4—TYPICAL REVERSE CHARACTERISTICS



EFR SERIES

EFFICIENT FAST RECOVERY GLASS PASSIVATED RECTIFIER CHIP

GENERAL
INSTRUMENT



FEATURES

- Ideal for Hybrid Circuits
- Solderable Metallization
- Typical I_A less than $1\mu A$
- Glass Passivated Junction
- High Surge Capability
- Superfast recovery times
- Low forward voltage, high current capability
- Mounting Position: Any

	Dimension A	Dimension B	Dimension C	Dimension D
EFR 1	.062 (1.6) .058 (1.5)	.062 (1.6) .058 (1.5)	.050 (1.3) .046 (1.2)	.010 (.25) .008 (.20)
EFR 3	.086 (2.2) .082 (2.1)	.086 (2.2) .082 (2.1)	.069 (1.8) .065 (1.7)	.010 (.25) .008 (.20)
EFR 5	.102 (2.6) .096 (2.5)	.102 (2.6) .096 (2.5)	.086 (2.2) .082 (2.1)	.010 (.25) .008 (.20)
EFR 8	.142 (3.6) .138 (3.5)	.142 (3.6) .138 (3.5)	.130 (3.3) .126 (3.2)	.010 (.25) .008 (.20)

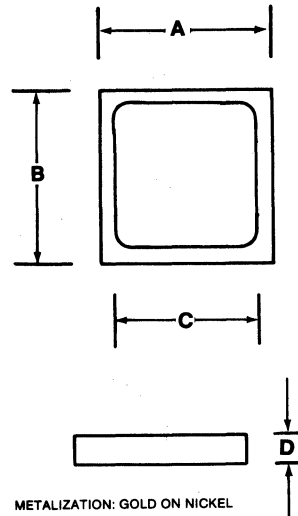
Dimension in inches (millimeters)

VOLTAGE RANGE

50 to 200 Volts

CURRENT

1.0, 3.0, 5.0, and 8.0 Amperes



METALIZATION: GOLD ON NICKEL

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Single phase half sine-wave 60 Hz resistive or inductive load.
For capacitive load derate current by 20%
All ratings are for $T_A = 25^\circ C$ unless otherwise specified.

	EFR1A EFR3A EFR5A EFR8A	EFR1B EFR3B EFR5B EFR8B	EFR1C EFR3C EFR5C EFR8C	EFR1D EFR3D EFR5D EFR8D	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
Maximum DC Blocking Voltage	50	100	150	200	V
Maximum Average Forward Rectified Current (Note 1) at $T_A = 75^\circ C$	EFR1 EFR3 EFR5 EFR8	1.0 3.0 5.0 8.0			A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	EFR1 EFR3 EFR5 EFR8	50 75 125 300			A
Maximum Instantaneous Forward voltage at Specified Current: EFR1 $I_F = 1.0A$ EFR3 $I_F = 3.0A$ EFR5 $I_F = 5.0A$ EFR8 $I_F = 8.0A$ (Pulse Width = 300 μs , Duty Factor = 1%)		.90			V
Maximum Reverse Leakage Current at Rated DC Blocking Voltage $T_A = 25^\circ C$	EFR1 EFR3 EFR5 EFR8	5.0 5.0 5.0 10.0			μA
Maximum Reverse Recovery Time (Note 2)		35			ns
Operating and Storage Temperature Range T_J , TSTG		-65 to +150			$^\circ C$

NOTES: 1-Actual Rating is heat sink dependent. 2- $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$

RATING AND CHARACTERISTIC CURVES **EFR SERIES**

Fig. 1—FORWARD CURRENT DERATING CURVE

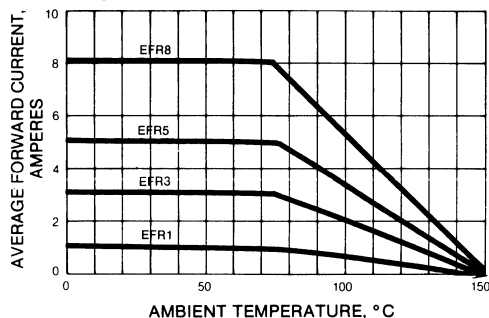


Fig. 3—MAXIMUM NON-REPETITIVE SURGE CURRENT

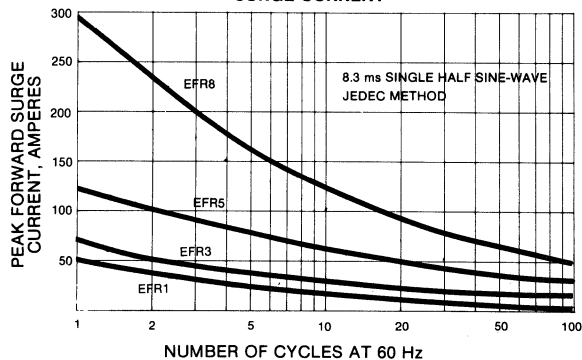


Fig. 5—REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

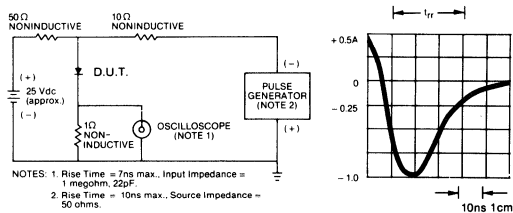


FIG. 2—TYPICAL REVERSE CHARACTERISTICS

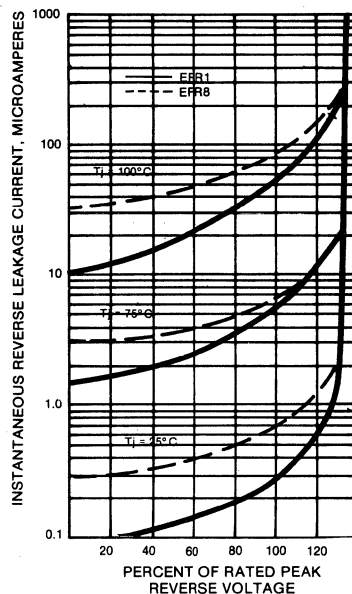
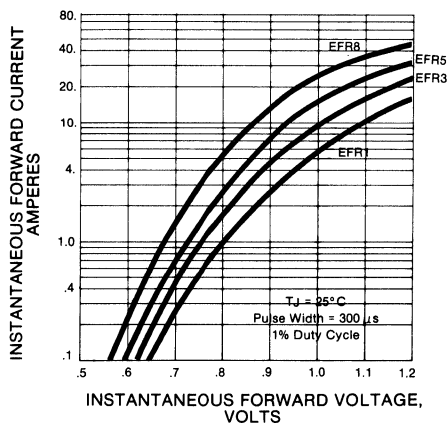


Fig. 4—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



SCH1, SCH3, SCH5, AND SCH10 SERIES

SCHOTTKY OXIDE PASSIVATED RECTIFIER CHIPS

GENERAL
INSTRUMENT

FEATURES

- Ideal for Hybrid Circuits
- Solderable Metallization
- Metal to silicon rectifier majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Mounting Position: Any

	Dimension A	Dimension B	Dimension C	Dimension D
SCH1	.052 (1.32) .048 (1.22)	.052 (1.32) .048 (1.22)	.042 (1.07) .040 (1.02)	.010 (.25) .009 (.23)
SCH3	.074 (1.98) .070 (1.78)	.074 (1.98) .070 (1.78)	.064 (1.62) .062 (1.57)	.010 (.25) .009 (.23)
SCH5	.117 (2.97) .113 (2.87)	.117 (2.97) .113 (2.87)	.105 (2.67) .103 (2.62)	.010 (.25) .009 (.23)
SCH10	.162 (4.11) .158 (4.01)	.162 (4.11) .158 (4.01)	.147 (3.73) .145 (3.68)	.010 (.25) .009 (.23)

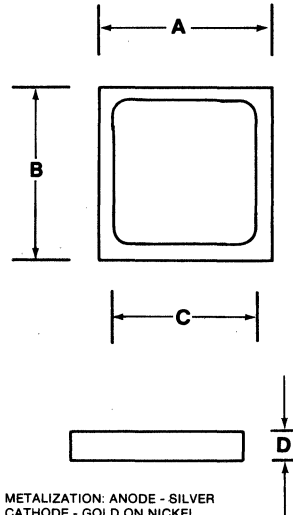
Dimensions in inches (millimeters)

VOLTAGE RANGE

20 thru 60 Volts

CURRENT

1.0, 3.0, 5.0, and 10.0 Amperes



METALIZATION: ANODE - SILVER
CATHODE - GOLD ON NICKEL

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Single phase half sine-wave 60 Hz resistive or inductive load.

For capacitive load derate current by 20%

All ratings are for $T_A = 25^\circ\text{C}$ unless otherwise specified.

		SCH120 SCH320 SCH520 SCH1020	SCH130 SCH330 SCH530 SCH030	SCH140 SCH340 SCH540 SCH1040	SCH150 SCH350 SCH550 SCH1050	SCH160 SCH360 SCH560 SCH1060	UNITS
Maximum Recurrent Peak Reverse Voltage		20	30	40	50	60	V
Maximum RMS Voltage		14	21	28	35	42	V
Maximum DC Blocking Voltage		20	30	40	50	60	V
Maximum Average Forward Rectified Current (Note 1)	SCH1 SCH3 SCH5 SCH10 See Fig. 1	1.0 3.0 5.0 10.0					A
Peak Forward Surge Current, 8.3ms single half sine-wave Superimposed on Rated Load (JEDEC method)	SCH1 SCH3 SCH5 SCH10	100 200 250 300					A
Maximum Instantaneous Forward Voltage at Specified Current (Pulse Width = 300 μ S, Duty Factor = 1%)	SCH1 $I_F = 1.0\text{A}$ SCH3 $I_F = 3.0\text{A}$ SCH5 $I_F = 5.0\text{A}$ SCH10 $I_F = 10.0\text{A}$	.5 .5 .65 .65					V
Maximum Reverse Leakage Current at Rated DC Blocking Voltage	SCH1 SCH3 SCH5 SCH10	1.0 2.0 3.0 5.0					mA
Operating and Storage Temperature Range, T_J	SCH1, 3 SCH5, 10	-65 to +125 -65 to +150					$^\circ\text{C}$

NOTES:

1. Actual rating is heat sink dependent.

RATING AND CHARACTERISTIC CURVES **SCH1, SCH3, SCH5, AND SCH10 SERIES**

Fig. 1A — Forward Current Derating Curve
20, 30, and 40V Devices

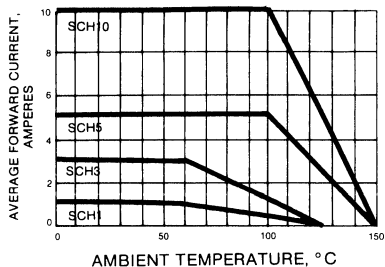


Fig. 1B—Forward Current Derating Curve
50 and 60V Devices

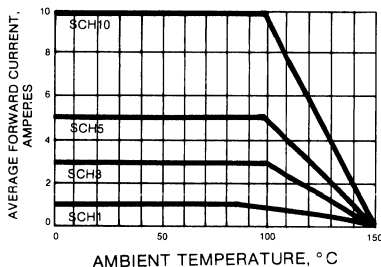


FIG. 2A - TYPICAL CHARACTERISTICS
FORWARD CHARACTERISTICS

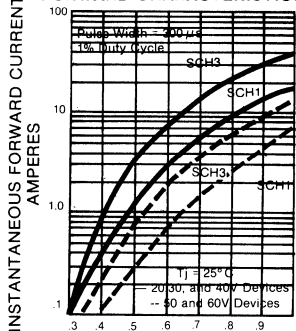


FIG. 2B - TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

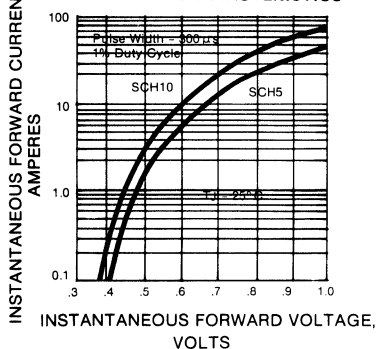


Fig. 3 - TYPICAL REVERSE
CHARACTERISTICS

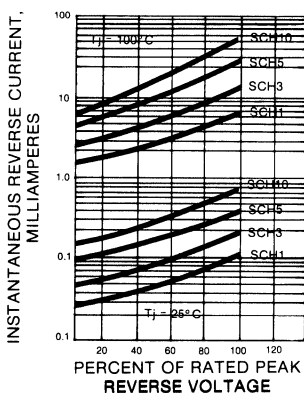
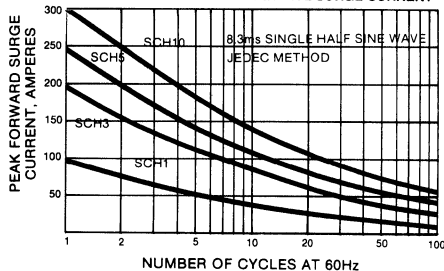
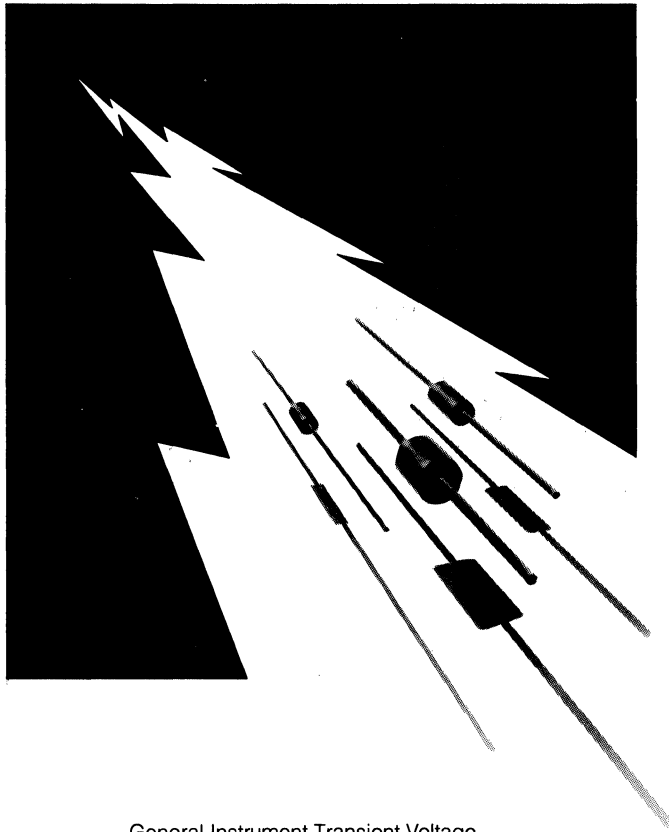


FIG. 4—MAXIMUM NON-REPETITIVE SURGE CURRENT



Transient Voltage Suppressors



General Instrument Transient Voltage Suppressors are the state-of-the-art in semiconductor surge protection for modern electronic equipment.

Because TVS devices are semiconductors, there is no inherent wear out mechanism. When overstressed, they short circuit at the changing voltage and protect the associated equipment. The clamping voltage is close to the operating voltage enabling a high degree of protection while assuring the devices are off until their operation is required.

General Instrument TVS units are available in three power ranges: 600, 1500, and 5000 watts with a wide variety of voltages.

GENERAL
INSTRUMENT

P6KE SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

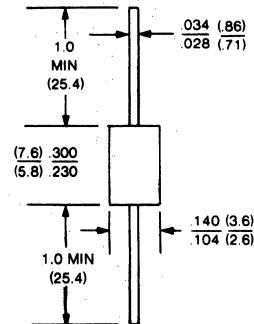
**GENERAL
INSTRUMENT**



VOLTAGE RANGE
6.8 to 200 Volts

600 Watt Peak Power
5.0 Watts Steady State

DO-15



All dimensions in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction in DO-15 package
- 600W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0ps from 0 volts to BV min.
- Typical I_R less than $1 \mu A$ above 10V
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass passivated junction
Terminas: Axial leads, solderable
per MIL-STD-202, Method 208
Polarity: Color band denotes cathode except Bipolar
Mounting position: Any
Weight: 0.015 ounce, .4 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A = 25^\circ C$, $T_p = 1$ ms (Note 1)	Ppk	Minimum 600	Watts
Steady State Power Dissipation at $T_L = 75^\circ C$ Lead Lengths .375", (9.5mm) (Note 2)	PD	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	IFSM	100	Amps
Operating and Storage Temperature Range	T_J , T_{STG}	-65 to +175	$^\circ C$

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ C$ per Fig. 2.
2. Mounted on Copper Leaf area of 1.57 in^2 (40mm²).
3. 8.3 ms single half sine-wave, duty cycle = 4 pulses per Minutes maximum.

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P6KE6.8 through types P6KE200.
Electrical characteristics apply in both directions.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Device	Breakdown Voltage		@ I _T (mA)	Working Peak Reverse Voltage V _{RWM} (Volts)	Maximum Reverse Leakage at V _{RWM} I _R (μA)	Maximum Reverse Current I _{RSM} (Note 2) (Amps)	Maximum Reverse Voltage at I _{RSM} (Clamping Voltage) V _{RSM} (Volts)	Maximum Temperature Coefficient of V _{BR} (%/°C)
	Var							
	Volts (Note 1)							
	Min	Max						
P6KE6.8	6.12	7.48	10	5.50	1000	56	10.8	0.057
P6KE6.8A	6.45	7.14	10	5.80	1000	57	10.5	0.057
P6KE7.5	6.75	8.25	10	6.05	500	51	11.7	0.061
P6KE7.5A	7.13	7.88	10	6.40	500	53	11.3	0.061
P6KE8.2	7.38	9.02	10	6.63	200	48	12.5	0.065
P6KE8.2A	7.79	8.61	10	7.02	200	50	12.1	0.065
P6KE9.1	8.19	10.0	1.0	7.37	50	44	13.8	0.068
P6KE9.1A	8.85	9.55	1.0	7.78	50	45	13.4	0.068
P6KE10	9.00	11.0	1.0	8.10	10	40	15.0	0.073
P6KE10A	9.50	10.5	1.0	8.55	10	41	14.5	0.073
P6KE11	9.90	12.1	1.0	8.92	5.0	37	16.2	0.075
P6KE11A	10.5	11.6	1.0	9.40	5.0	38	15.6	0.075
P6KE12	10.8	13.2	1.0	9.72	5.0	35	17.3	0.078
P6KE12A	11.4	12.6	1.0	10.2	5.0	36	16.7	0.078
P6KE13	11.7	14.3	1.0	10.5	5.0	32	19.0	0.081
P6KE13A	12.4	13.7	1.0	11.1	5.0	33	18.2	0.081
P6KE15	13.5	16.5	1.0	12.1	5.0	27	22.0	0.084
P6KE15A	14.3	15.8	1.0	12.8	5.0	28	21.2	0.084
P6KE16	14.4	17.6	1.0	12.9	5.0	26	23.5	0.086
P6KE16A	15.2	16.8	1.0	13.6	5.0	27	22.5	0.086
P6KE18	16.2	19.8	1.0	14.5	5.0	23	26.5	0.088
P6KE18A	17.1	18.9	1.0	15.3	5.0	24	25.2	0.088
P6KE20	18.0	22.0	1.0	16.2	5.0	21	29.1	0.090
P6KE20A	19.0	21.0	1.0	17.1	5.0	22	27.7	0.090
P6KE22	19.8	24.2	1.0	17.8	5.0	19	31.9	0.092
P6KE22A	20.9	23.1	1.0	18.8	5.0	20	30.6	0.092
P6KE24	21.6	26.4	1.0	19.4	5.0	17	34.7	0.094
P6KE24A	22.8	25.2	1.0	20.5	5.0	18	33.2	0.094
P6KE27	24.3	29.7	1.0	21.8	5.0	15	39.1	0.096
P6KE27A	25.7	28.4	1.0	23.1	5.0	16	37.5	0.096
P6KE30	27.0	33.0	1.0	24.3	5.0	14	43.5	0.097
P6KE30A	28.5	31.5	1.0	25.6	5.0	14.4	41.4	0.097
P6KE33	29.7	36.3	1.0	26.8	5.0	12.6	47.7	0.098
P6KE33A	31.4	34.7	1.0	28.2	5.0	13.2	45.7	0.098
P6KE36	32.4	39.6	1.0	29.1	5.0	11.6	52.0	0.099
P6KE36A	34.2	37.8	1.0	30.8	5.0	12	49.9	0.099
P6KE39	35.1	42.9	1.0	31.6	5.0	10.6	58.4	0.100
P6KE39A	37.1	41.0	1.0	33.3	5.0	11.2	53.9	0.100
P6KE43	38.7	47.3	1.0	34.8	5.0	9.6	61.9	0.101
P6KE43A	40.9	45.2	1.0	36.8	5.0	10.1	59.3	0.101
P6KE47	42.3	51.7	1.0	38.1	5.0	8.9	67.8	0.101
P6KE47A	44.7	49.4	1.0	40.2	5.0	9.3	64.8	0.101
P6KE51	45.9	56.1	1.0	41.3	5.0	8.2	73.5	0.102
P6KE51A	48.5	53.6	1.0	43.6	5.0	8.6	70.1	0.102
P6KE56	50.4	61.6	1.0	45.4	5.0	7.4	80.5	0.103
P6KE56A	53.2	58.8	1.0	47.8	5.0	7.8	77.0	0.103
P6KE62	55.8	68.2	1.0	50.2	5.0	6.8	89.0	0.104
P6KE62A	58.9	65.1	1.0	53.0	5.0	7.1	85.0	0.104
P6KE68	61.2	74.8	1.0	55.1	5.0	6.1	98.0	0.104
P6KE68A	64.6	71.4	1.0	58.1	5.0	6.5	92.0	0.104
P6KE75	67.5	82.5	1.0	60.7	5.0	5.5	108.0	0.105
P6KE75A	71.3	78.8	1.0	64.1	5.0	5.8	103.0	0.105
P6KE82	73.8	90.2	1.0	66.4	5.0	5.1	118.0	0.105
P6KE82A	77.9	86.1	1.0	70.1	5.0	5.3	113.0	0.105
P6KE91	81.9	100.0	1.0	73.7	5.0	4.8	131.8	0.106
P6KE91A	86.5	95.50	1.0	77.8	5.0	4.8	125.0	0.106
P6KE100	90.0	110.0	1.0	81.0	5.0	4.2	144.0	0.106
P6KE100A	95.0	105.0	1.0	85.5	5.0	4.4	137.0	0.106
P6KE110	99.0	121.0	1.0	89.2	5.0	3.8	158.0	0.107
P6KE110A	105.0	116.0	1.0	94.0	5.0	4.0	152.0	0.107
P6KE120	108.0	132.0	1.0	97.2	5.0	3.5	173.0	0.107
P6KE120A	114.0	126.0	1.0	102.0	5.0	3.6	165.0	0.107
P6KE130	117.0	143.0	1.0	105.0	5.0	3.2	187.0	0.107
P6KE130A	124.0	137.0	1.0	111.0	5.0	3.3	179.0	0.107
P6KE150	135.0	165.0	1.0	121.0	5.0	2.8	215.0	0.108
P6KE150A	143.0	158.0	1.0	128.0	5.0	2.9	207.0	0.108
P6KE160	144.0	176.0	1.0	130.0	5.0	2.6	230.0	0.108
P6KE160A	152.0	168.0	1.0	136.0	5.0	2.7	219.0	0.108
P6KE170	153.0	187.0	1.0	138.0	5.0	2.5	244.0	0.108
P6KE170A	162.0	179.0	1.0	145.0	5.0	2.6	234.0	0.108
P6KE180	162.0	198.0	1.0	146.0	5.0	2.3	258.0	0.108
P6KE180A	171.0	189.0	1.0	154.0	5.0	2.4	246.0	0.108
P6KE200	180.0	220.0	1.0	162.0	5.0	2.1	287.0	0.108
P6KE200A	190.0	210.0	1.0	171.0	5.0	2.2	274.0	0.108

NOTES:

1. VBR measured after I_T applied for 300 μs . I_T = Square Wave Pulse or equivalent.
2. Surge Current Waveform per Figure 3 and Derate per Figure 2.
3. VF = 3.5V max, IF = 50A for all types on 1/2 Square or Equivalent Sine Wave.
PW = 8.3ms, Duty Cycle = 4 Pulses per Minute maximum.

RATING AND CHARACTERISTIC CURVES **P6KE SERIES**

FIGURE 1 — PULSE RATING CURVE

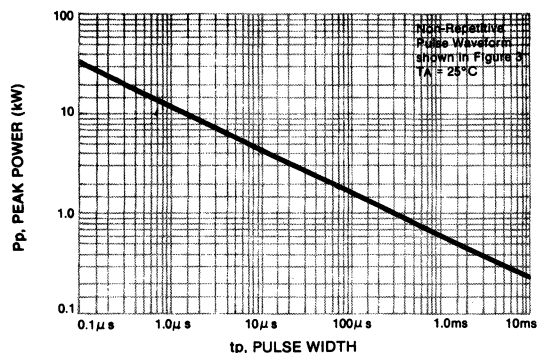


FIGURE 2 — PULSE DERATING CURVE

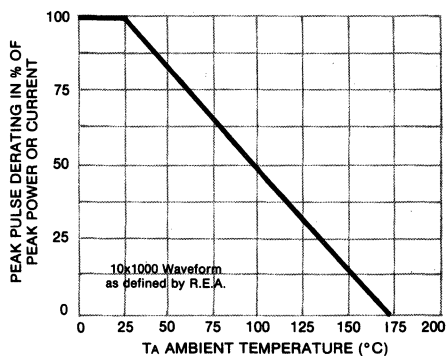


FIGURE 3 — PULSE WAVEFORM

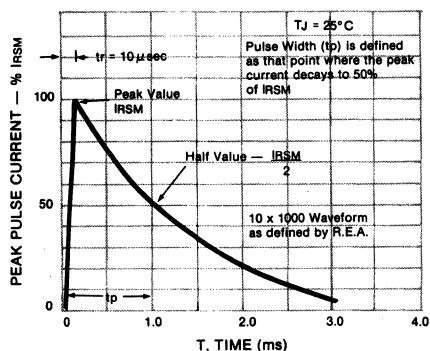


FIGURE 4 — TYPICAL JUNCTION CAPACITANCE

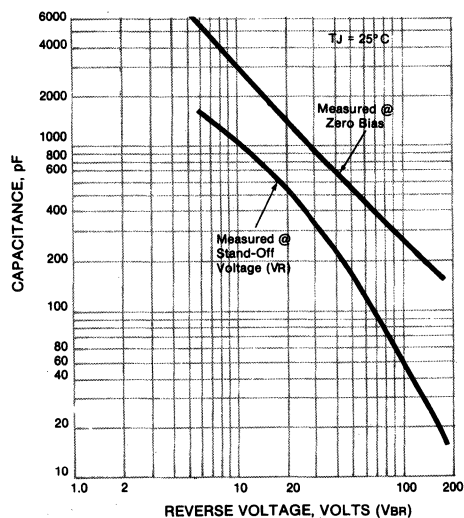


FIGURE 5 — STEADY STATE POWER DERATING

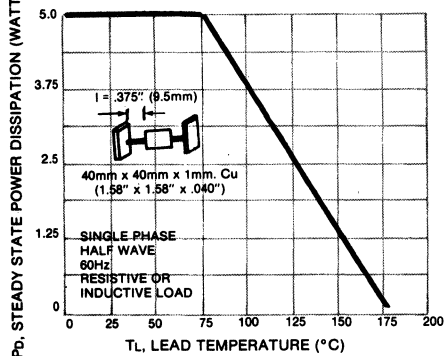
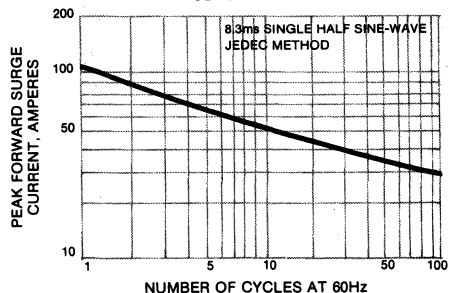


FIGURE 6 — MAXIMUM NON-REPETITIVE SURGE CURRENT



APPLICATION NOTES:

Transient Voltage Suppressors may be used at various points in a circuit to provide various degrees of protection. The following is a typical linear power supply with transient voltage suppressor units placed at different points. All provide protection of the load.

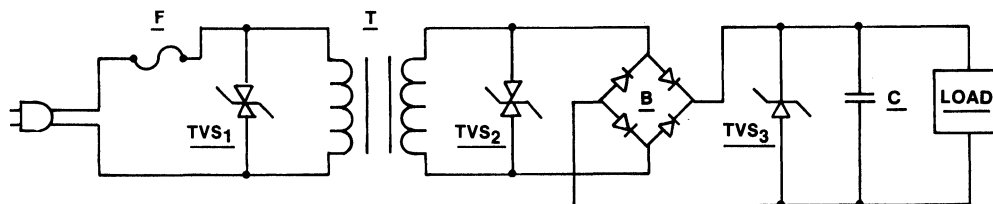


FIGURE 1

Transient Voltage Suppressor 1 provides maximum protection. However, the system will probably require replacement of the line fuse (F) since it provides a dominant portion of the series impedance when a surge is encountered.

Transient Voltage Suppressor 2 provides excellent protection of circuitry excluding the transformer (T). However, since the transformer is a large part of the series impedance, the chance of the line fuse opening during the surge condition is reduced.

Transient Voltage Suppressor 3 provides the load with complete protection. It uses a unidirectional Transient Voltage Suppressor, which is a cost advantage. The series impedance now includes the line fuse, transformer, and bridge rectifier (B) so failure of the line fuse is further reduced. If only Transient Voltage Suppressor 3 is in use, then the bridge rectifier is unprotected and would require a higher voltage and current rating to prevent failure by transients.

Any combination of these three, or any one of these applications, will prevent damage to the load. This would require varying trade-offs in power supply versus protection maintenance (changing the time fuse).

An additional method is to utilize the Transient Voltage Suppressor units as a controlled avalanche bridge. This reduces the parts count and incorporates the protection within the bridge rectifier.

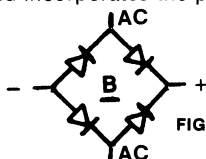


FIGURE 2

Higher wattage ratings are also available in range of 1500 watts (1.5KE Series) and 5000 watts (5KP Series).

For voltage ranges not seen on specification sheet please consult factory or the nearest sales office.

1.5KE SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

**GENERAL
INSTRUMENT**



FEATURES

- Plastic package has Underwriters Laboratory Flammability 94V-0.
- Glass passivated junction in DO-201 package
- Exceeds environmental standards of MIL-STD-19500
- 1500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0ps from 0 volts to BV min.
- Typical I_R less than $1\mu A$ above 10V
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: 300°C/10 seconds/.375", (9.5mm) lead length/5 lbs., (2.3 kg) tension

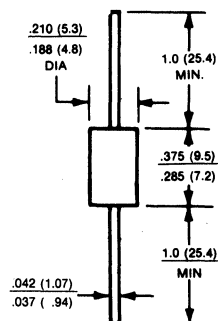
MECHANICAL DATA

Case: Molded plastic over glass passivated junction
Terminals: Axial leads, solderable per MIL-STD-202, Method 208
Polarity: Color band denotes cathode except Bipolar
Mounting position: Any
Weight: 0.015 ounce, .4 gram

VOLTAGE RANGE

6.8 to 400 Volts
1500 Watts Peak Power
5.0 Watts Steady State

DO-201



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A = 25^\circ C$, $T_p = 1ms$ (Note 1)	Ppk	Minimum 1500	Watts
Steady State Power Dissipation at $T_L = 75^\circ C$ Lead Lengths .375", 9.5mm (Note 2)	PD	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (Note 3)	I_{FSM}	200	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

NOTES:

1. Non-repetitive current pulse per Fig. 4 and derated above $T_A = 25^\circ C$ per Fig. 2.
2. Mounted on Copper leaf area of 0.79 in.², 20mm².
3. 8.3ms single half sine-wave, duty cycle = 4 pulses per Minutes maximum.

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5KE6.8 through types 1.5KE400
Electrical characteristics apply in both directions.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Device	Breakdown Voltage*		@ I _T (mA)	Working Peak Reverse Voltage V _{RWM} (Volts)	Maximum Reverse Leakage at V _{RWM} I _R (μA)	Maximum Reverse Surge Current I _{SM} (Note 2) (Amps)	Maximum Reverse Voltage at I _{SM} (Clamping Voltage) V _{SM} (Volts)	Maximum Temperature Coefficient of V _{BR} (%/°C)
	V _{BR} (Volts) (Note 1)							
	Min	Max						
1.5KE6.8	6.12	7.48	10	5.50	1000	139	10.8	0.057
1.5KE6.8A	6.45	7.14	10	5.80	1000	143	10.5	0.057
1.5KE7.5	6.75	8.25	10	6.05	500	128	11.7	0.061
1.5KE7.5A	7.13	7.88	10	6.40	500	132	11.3	0.061
1.5KE8.2	7.38	9.02	10	6.63	200	120	12.5	0.065
1.5KE8.2A	7.79	9.61	10	7.02	200	124	12.1	0.065
1.5KE9.1	8.19	10.0	1.0	7.37	50	109	13.8	0.068
1.5KE9.1A	8.65	9.55	1.0	7.78	50	112	13.4	0.068
1.5KE10	9.00	11	1.0	8.10	10	100	15.0	0.073
1.5KE10A	9.50	10.5	1.0	8.55	10	103	14.5	0.073
1.5KE11	9.90	12.1	1.0	8.92	5.0	93.0	16.2	0.075
1.5KE11A	10.5	11.6	1.0	9.40	5.0	96.0	15.6	0.075
1.5KE12	10.8	13.2	1.0	9.72	5.0	87.0	17.3	0.076
1.5KE12A	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1.5KE13	11.7	14.3	1.0	10.5	5.0	79.0	19.0	0.081
1.5KE13A	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1.5KE15	13.5	16.5	1.0	12.1	5.0	68.0	22.0	0.084
1.5KE15A	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084
1.5KE16	14.4	17.6	1.0	12.9	5.0	64.0	23.5	0.086
1.5KE16A	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086
1.5KE18	16.2	19.8	1.0	14.5	5.0	56.5	26.5	0.088
1.5KE18A	17.1	18.9	1.0	15.3	5.0	59.5	26.2	0.088
1.5KE20	18.0	22.0	1.0	16.2	5.0	51.5	29.1	0.090
1.5KE20A	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090
1.5KE22	19.8	24.2	1.0	17.8	5.0	47.0	31.9	0.092
1.5KE22A	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1.5KE24	21.6	26.4	1.0	19.4	5.0	43.0	34.7	0.094
1.5KE24A	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094
1.5KE27	24.3	29.7	1.0	21.8	5.0	38.5	39.1	0.096
1.5KE27A	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1.5KE30	27.0	33.0	1.0	24.3	5.0	34.5	43.5	0.097
1.5KE30A	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097
1.5KE33	29.7	36.3	1.0	26.8	5.0	31.5	47.7	0.098
1.5KE33A	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098
1.5KE36	32.4	39.6	1.0	29.1	5.0	29.0	52.0	0.099
1.5KE36A	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099
1.5KE39	35.1	42.9	1.0	31.6	5.0	26.5	56.4	0.100
1.5KE39A	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100
1.5KE43	38.7	47.3	1.0	34.8	5.0	24.0	61.9	0.101
1.5KE43A	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1.5KE47	42.3	51.7	1.0	38.1	5.0	22.2	67.8	0.101
1.5KE47A	44.7	49.4	1.0	40.2	5.0	23.2	64.8	0.101
1.5KE51	45.9	56.1	1.0	41.3	5.0	20.4	73.5	0.102
1.5KE51A	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1.5KE56	50.4	61.6	1.0	45.4	5.0	18.6	80.5	0.103
1.5KE56A	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103
1.5KE62	55.8	68.2	1.0	50.2	5.0	16.9	89.0	0.104
1.5KE62A	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
1.5KE68	61.2	74.8	1.0	55.1	5.0	15.3	98.0	0.104
1.5KE68A	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1.5KE75	67.5	82.5	1.0	60.7	5.0	13.9	108.9	0.105
1.5KE75A	71.3	78.8	1.0	64.1	5.0	14.6	103.0	0.105
1.5KE82	73.8	90.2	1.0	66.4	5.0	12.7	118.0	0.105
1.5KE82A	77.9	86.1	1.0	70.1	5.0	13.3	113.0	0.105
1.5KE91	81.9	100.0	1.0	73.7	5.0	11.4	131.0	0.106
1.5KE91A	86.5	95.50	1.0	77.8	5.0	12.0	125.0	0.106
1.5KE100	90.0	110.0	1.0	81.0	5.0	10.4	144.0	0.106
1.5KE100A	95.0	105.0	1.0	85.5	5.0	11.0	137.0	0.106
1.5KE110	99.0	121.0	1.0	89.2	5.0	9.5	158.0	0.107
1.5KE110A	105.0	116.0	1.0	94.0	5.0	9.9	152.0	0.107
1.5KE120	108.0	132.0	1.0	97.2	5.0	8.7	173.0	0.107
1.5KE120A	114.0	126.0	1.0	102.0	5.0	9.1	165.0	0.107
1.5KE130	117.0	143.0	1.0	106.0	5.0	8.0	187.0	0.107
1.5KE130A	124.0	137.0	1.0	111.0	5.0	8.4	179.0	0.107
1.5KE150	135.0	165.0	1.0	121.0	5.0	7.0	215.0	0.108
1.5KE150A	143.0	158.0	1.0	128.0	5.0	7.2	207.0	0.108
1.5KE160	144.0	176.0	1.0	130.0	5.0	6.5	230.0	0.108
1.5KE160A	152.0	168.0	1.0	136.0	5.0	6.8	219.0	0.108
1.5KE170	153.0	187.0	1.0	138.0	5.0	6.2	244.0	0.108
1.5KE170A	162.0	179.0	1.0	145.0	5.0	6.4	234.0	0.108
1.5KE180	162.0	198.0	1.0	146.0	5.0	5.8	258.0	0.108
1.5KE180A	171.0	189.0	1.0	154.0	5.0	6.1	246.0	0.108
1.5KE200	180.0	220.0	1.0	162.0	5.0	5.2	287.0	0.108
1.5KE200A	190.0	210.0	1.0	171.0	5.0	5.5	274.0	0.108
1.5KE220	198.0	242.0	1.0	175.0	5.0	4.3	344.0	0.108
1.5KE220A	209.0	231.0	1.0	185.0	5.0	4.6	328.0	0.108
1.5KE250	225.0	275.0	1.0	202.0	5.0	4.17	360.0	0.110
1.5KE250A	237.0	263.0	1.0	214.0	5.0	4.37	344.0	0.110
1.5KE300	270.0	330.0	1.0	243.0	5.0	3.38	430.0	0.110
1.5KE300A	285.0	315.0	1.0	256.0	5.0	3.58	414.0	0.110
1.5KE350	315.0	385.0	1.0	284.0	5.0	2.88	504.0	0.110
1.5KE350A	333.0	368.0	1.0	300.0	4.0	3.08	482.0	0.110
1.5KE400	360.0	440.0	1.0	324.0	4.0	2.58	574.0	0.110
1.5KE400A	380.0	420.0	1.0	342.0	4.0	2.78	548.0	0.110

NOTES:

1. V_{BR} measured after I_T applied for 300 μs. I_T = Square Wave Pulse or equivalent.
2. Surge current Waveform per Figure 3 and Derate per Figure 2.
3. V_F = 3.5V max, I_F = 100A for all types per 1/2 Square or Equivalent Sine Wave.

PW = 8.3ms, Duty Cycle = 4 Pulses per Minute Maximum.

RATING AND CHARACTERISTIC CURVES **1.5KE SERIES**

FIGURE 1 — PULSE RATING CURVE

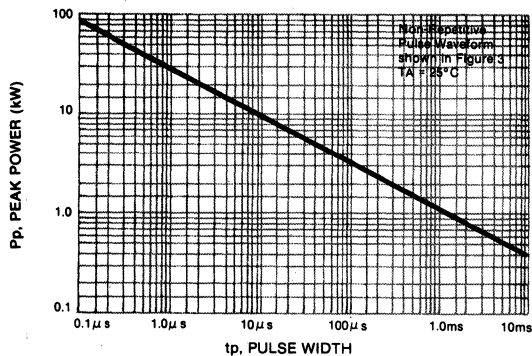


FIGURE 2 — PULSE DERATING CURVE

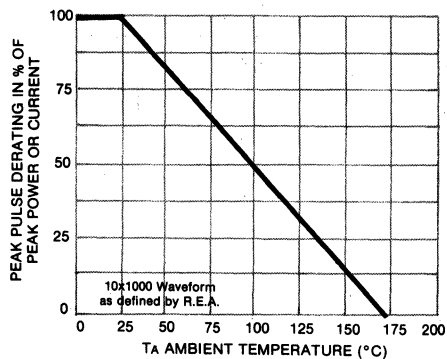


FIGURE 3 — PULSE WAVEFORM

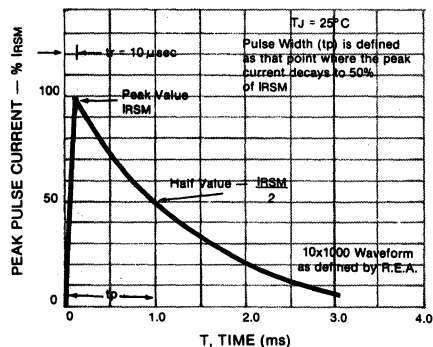


FIGURE 4 — TYPICAL JUNCTION CAPACITANCE

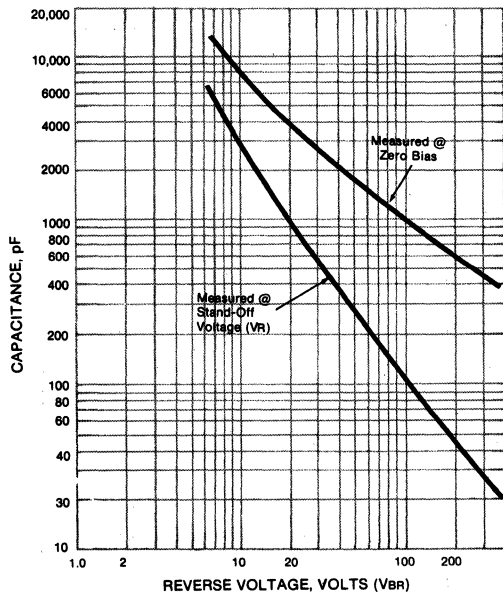


FIGURE 5 — STEADY STATE POWER DERATING

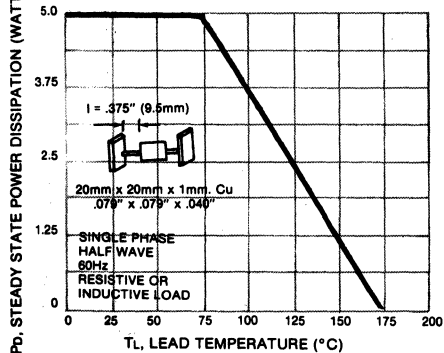
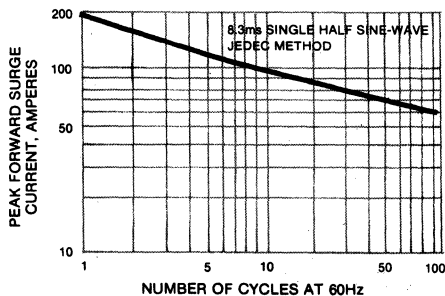


FIGURE 6 — MAXIMUM NON-REPETITIVE SURGE CURRENT



APPLICATION NOTES:

Transient Voltage Suppressors may be used at various points in a circuit to provide various degrees of protection. The following is a typical linear power supply with transient voltage suppressor units placed at different points. All provide protection of the load.

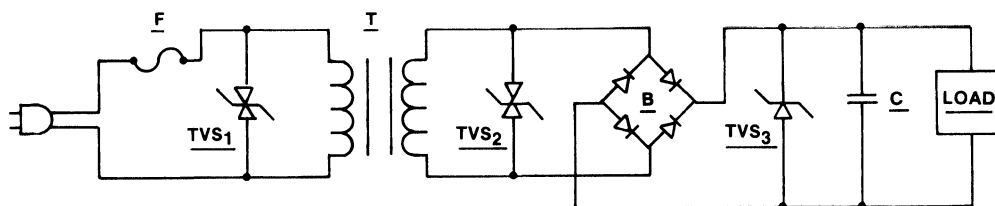


FIGURE 1

Transient Voltage Suppressor 1 provides maximum protection. However, the system will probably require replacement of the line fuse (F) since it provides a dominant portion of the series impedance when a surge is encountered.

Transient Voltage Suppressor 2 provides excellent protection of circuitry excluding the transformer (T). However, since the transformer is a large part of the series impedance, the chance of the line fuse opening during the surge condition is reduced.

Transient Voltage Suppressor 3 provides the load with complete protection. It uses a unidirectional Transient Voltage Suppressor, which is a cost advantage. The series impedance now includes the line fuse, transformer, and bridge rectifier (B) so failure of the line fuse is further reduced. If only Transient Voltage Suppressor 3 is in use, then the bridge rectifier is unprotected and would require a higher voltage and current rating to prevent failure by transients.

Any combination of these three, or any one of these applications, will prevent damage to the load. This would require varying trade-offs in power supply versus protection maintenance (changing the time fuse).

An additional method is to utilize the Transient Voltage Suppressor units as a controlled avalanche bridge. This reduces the parts count and incorporates the protection within the bridge rectifier.

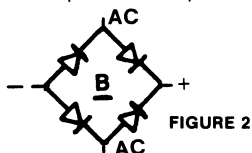


FIGURE 2

Higher and lower wattage ratings are also available in range of 5000 watts (5KP Series) and 600 watts (P6KE Series).

For voltage ranges not seen on specification sheet please consult factory or the nearest sales office.

5KP SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

**GENERAL
INSTRUMENT**



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- Glass passivated junction in molded plastic package
- Exceeds environmental standards MIL-STD-19500
- 5000W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0ps from 0 volts to BV min.
- Typical I_A less than $1\mu A$ above 10V
- Exceeds environmental standards of MIL-STD-19500
- High temperature soldering guaranteed: $300^\circ C/10$ seconds/.375", (9.5mm) lead length/5 lbs., (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic over glass

Terminals: Axial leads, solderable per

MIL-STD-202, Method 208

Polarity: Color band denotes cathode except Bipolar

Mounting position: Any

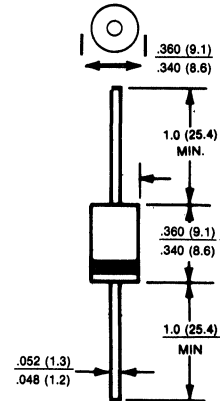
Weight: 0.07 ounce, 2.1 grams

VOLTAGE RANGE

5.0 to 110 Volts

5000 Watts Peak Power

5.0 Watts Steady State



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at $25^\circ C$ ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power dissipation at $T_A = 25^\circ C$, $T_p = 1ms$ (Note 1)	Ppk	Minimum 5000	Watts
Steady State Power Dissipation at $T_L = 25^\circ C$ Lead Lengths .375", 9.5mm (Note 2)	PD	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (Note 3)	I_{FSM}	400	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	$-55^\circ C$ to $+175^\circ C$	$^\circ C$

NOTES:

1. Non-repetitive current pulse per Fig. 4 and derated above $T_A = 25^\circ C$ per Fig. 2.
2. Mounted on Copper Leaf area of $0.79 in.^2$, $20mm^2$.
3. 8.3ms single half sine-wave, duty cycle = 4 pulses per Minutes maximum.

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 5KP5.0 through types 5KP110.

Electrical characteristics apply in both directions.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Device	Breakdown Voltage			Working Peak Reverse Voltage VRWM (Volts)	Maximum Reverse Leakage @ VRWM I _R (μA)	Maximum Reverse Surge Current I _{SM} (Note 2) (Amps)	Maximum Reverse Voltage @ I _{SM} (Clamping Voltage) V _{RM} (Volts)	Maximum Temperature Coefficient of V _{BR} (%/°C)
	V _{BR} (Volts)		@ I _T (mA)					
	Min	Max						
5KP5.0	6.40	7.30	50	5.0	2000	520	9.6	0.057
5KP5.0A	6.40	7.00	50	5.0	2000	543	9.2	0.057
5KP6.0	6.67	8.15	50	6.0	5000	439	11.4	0.061
5KP6.0A	6.67	7.37	50	6.0	5000	485	10.3	0.061
5KP6.5	7.22	8.82	50	6.5	2000	407	12.3	0.065
5KP6.5A	7.22	7.98	50	6.5	2000	447	11.2	0.065
5KP7.0	7.78	9.51	50	7.0	1000	378	13.3	0.068
5KP7.0A	7.78	8.60	50	7.0	1000	417	12.0	0.068
5KP7.5	8.33	10.2	5.0	7.5	250	350	14.3	0.073
5KP7.5A	8.33	9.21	5.0	7.5	250	388	12.9	0.073
5KP8.0	8.89	10.9	5.0	8.0	150	333	15.0	0.075
5KP8.0A	8.89	9.83	5.0	8.0	150	367	13.6	0.075
5KP8.5	9.44	11.5	5.0	8.5	50	314	15.9	0.078
5KP8.5A	9.44	10.4	5.0	8.5	50	347	14.4	0.078
5KP9.0	10.0	12.2	5.0	9.0	20	295	16.9	0.081
5KP9.0A	10.0	11.1	5.0	9.0	20	325	15.4	0.081
5KP10	11.1	13.6	5.0	10.0	15	266	18.8	0.084
5KP10A	11.1	12.3	5.0	10.0	15	294	17.0	0.084
5KP11	12.2	14.9	5.0	11.0	10	249	20.1	0.086
5KP11A	12.2	13.5	5.0	11.0	10	274	18.2	0.086
5KP12	13.3	16.3	5.0	12.0	10	227	22.0	0.088
5KP12A	13.3	14.7	5.0	12.0	10	251	19.9	0.088
5KP13	14.4	17.6	5.0	13.0	10	210	23.8	0.090
5KP13A	14.4	15.9	5.0	13.0	10	232	21.5	0.090
5KP14	15.6	19.1	5.0	14.0	10	194	25.8	0.092
5KP14A	15.6	17.2	5.0	14.0	10	215	23.2	0.092
5KP15	16.7	20.4	5.0	15.0	10	188	26.9	0.094
5KP15A	16.7	18.5	5.0	15.0	10	206	24.4	0.094
5KP16	17.8	21.8	5.0	16.0	10	176	28.8	0.096
5KP16A	17.8	19.7	5.0	16.0	10	192	26.0	0.096
5KP17	18.9	23.1	5.0	17.0	10	164	30.5	0.097
5KP17A	18.9	20.9	5.0	17.0	10	181	27.6	0.097
5KP18	20.0	24.4	5.0	18.0	10	155	32.2	0.098
5KP18A	20.0	22.1	5.0	18.0	10	172	29.2	0.098
5KP20	22.2	27.1	5.0	20.0	10	139	35.8	0.099
5KP20A	22.2	24.5	5.0	20.0	10	154	32.4	0.099
5KP22	24.4	29.8	5.0	22.0	10	127	39.4	0.100
5KP22A	24.4	26.9	5.0	22.0	10	141	35.5	0.100
5KP24	26.7	32.6	5.0	24.0	10	116	43.0	0.101
5KP24A	26.7	29.5	5.0	24.0	10	128	38.9	0.101
5KP26	28.9	35.3	5.0	26.0	10	107	46.6	0.101
5KP26A	28.9	31.9	5.0	26.0	10	119	42.1	0.101
5KP28	31.1	38.0	5.0	28.0	10	99	50.1	0.102
5KP28A	31.1	34.4	5.0	28.0	10	110	45.4	0.102
5KP30	33.3	40.7	5.0	30.0	10	93	53.5	0.103
5KP30A	33.3	36.8	5.0	30.0	10	103	48.4	0.103
5KP33	36.7	44.9	5.0	33.0	10	85	59.0	0.104
5KP33A	36.7	40.6	5.0	33.0	10	94	53.3	0.104
5KP36	40.0	48.9	5.0	36.0	10	78	64.3	0.104
5KP36A	40.0	44.2	5.0	36.0	10	86	58.1	0.104
5KP40	44.4	54.3	5.0	40.0	10	70	71.4	0.105
5KP40A	44.4	49.1	5.0	40.0	10	78	64.5	0.105
5KP43	47.8	58.4	5.0	43.0	10	65	76.7	0.105
5KP43A	47.8	52.8	5.0	43.0	10	72	69.4	0.105
5KP45	50.0	61.1	5.0	45.0	10	62	80.3	0.106
5KP45A	50.0	55.3	5.0	45.0	10	69	72.7	0.106
5KP48	53.3	65.1	5.0	48.0	10	58	85.5	0.106
5KP48A	53.3	58.9	5.0	48.0	10	65	77.4	0.106
5KP51	56.7	69.3	5.0	51.0	10	55	91.1	0.107
5KP51A	56.7	62.7	5.0	51.0	10	61	82.4	0.107
5KP54	60.0	73.3	5.0	54.0	10	52	96.3	0.107
5KP54A	60.0	66.3	5.0	54.0	10	57	87.1	0.107
5KP58	64.4	78.7	5.0	58.0	10	49	103.0	0.107
5KP58A	64.4	71.2	5.0	58.0	10	53	93.6	0.107
5KP60	66.7	81.5	5.0	60.0	10	47	107.0	0.108
5KP60A	66.7	73.7	5.0	60.0	10	52	96.8	0.108
5KP64	71.1	86.9	5.0	64.0	10	44	114.0	0.108
5KP64A	71.1	78.6	5.0	64.0	10	49	103.0	0.108
5KP70	77.8	95.1	5.0	70.0	10	40	125.0	0.108
5KP70A	77.8	86.0	5.0	70.0	10	44	113.0	0.108
5KP75	83.3	102.0	5.0	75.0	10	37	134.0	0.108
5KP75A	83.3	92.1	5.0	75.0	10	41	121.0	0.108
5KP78	86.7	106.0	5.0	78.0	10	36	139.0	0.108
5KP78A	86.7	95.8	5.0	78.0	10	40	126.0	0.108
5KP85	94.4	115.0	5.0	85.0	10	33	151.0	0.108
5KP85A	94.4	104.0	5.0	85.0	10	36	137.0	0.108
5KP90	100	122.0	5.0	90.0	10	31	160.0	0.110
5KP90A	100	111.0	5.0	90.0	10	34	146.0	0.110
5KP100	111	136.0	5.0	100.0	10	28	179.0	0.110
5KP100A	111	123.0	5.0	100.0	10	31	162.0	0.110
5KP110	122	149.0	5.0	110.0	10	26	196.0	0.112
5KP110A	122	135.0	5.0	110.0	10	28	177.0	0.112

NOTES:

1. V_{BR} measured after I_T applied for 300 μs, I_T = Square Wave Pulse or equivalent.

2. Surge Current waveform per Figure 3 and Derate per Figure 2.

3. V_F = 3.5 Volts max IF = 100A for all types on 1/2 square or Equivalent Sine Wave,

PW = 8.3ms, Duty Cycle = 4 Pulse per Minute maximum.

RATING AND CHARACTERISTIC CURVES **5KP SERIES**

FIGURE 1 — PULSE RATING CURVE

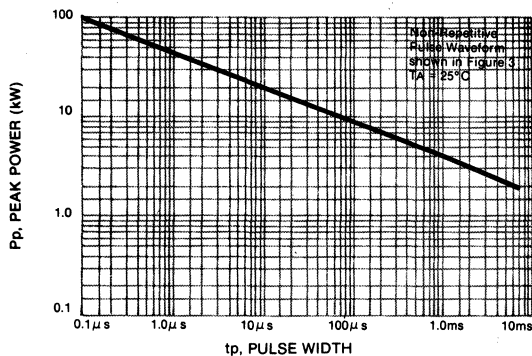


FIGURE 2 — PULSE DERATING CURVE

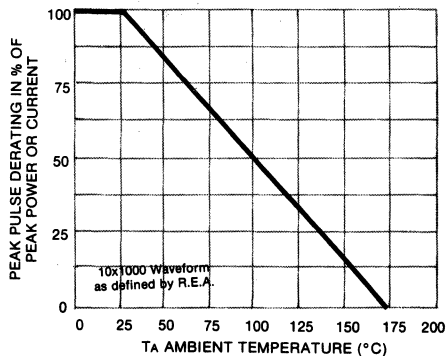


FIGURE 3 — PULSE WAVEFORM

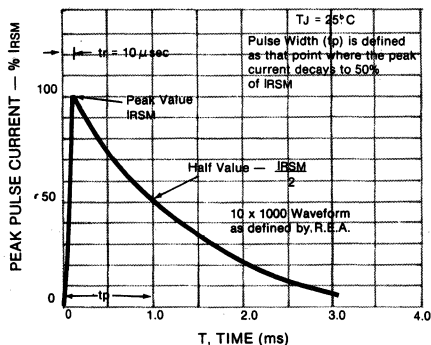


FIGURE 4 — TYPICAL JUNCTION CAPACITANCE

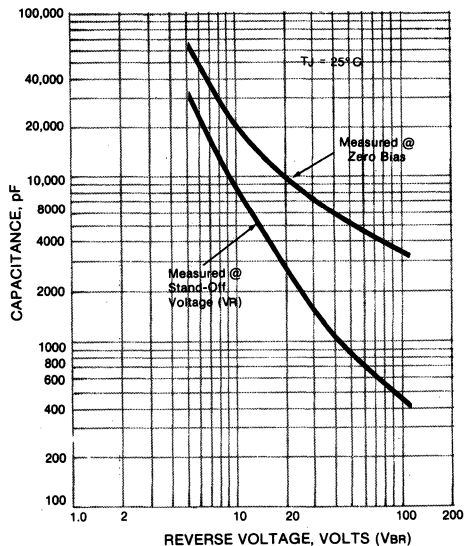


FIGURE 5 — STEADY STATE POWER DERATING

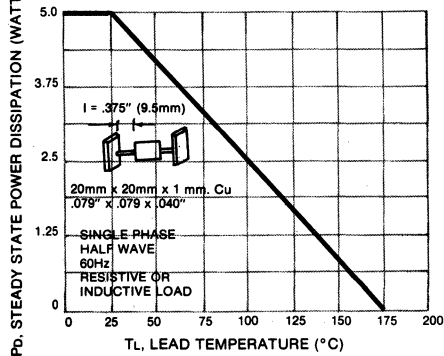
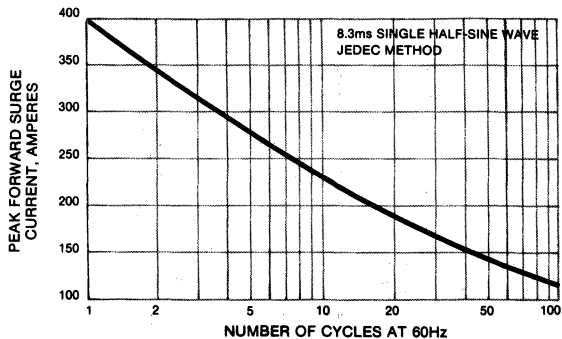


FIGURE 6 — MAXIMUM NON-REPETITIVE SURGE CURRENT



APPLICATION NOTES:

Transient Voltage Suppressors may be used at various points in a circuit to provide various degrees of protection. The following is a typical linear power supply with transient voltage suppressor units placed at different points. All provide protection of the load.

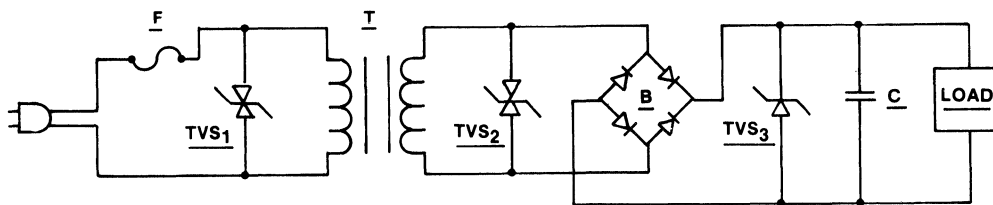


FIGURE 1

Transient Voltage Suppressor 1 provides maximum protection. However, the system will probably require replacement of the line fuse (F) since it provides a dominant portion of the series impedance when a surge is encountered.

Transient Voltage Suppressor 2 provides excellent protection of circuitry excluding the transformer (T). However, since the transformer is a large part of the series impedance, the chance of the line fuse opening during the surge condition is reduced.

Transient Voltage Suppressor 3 provides the load with complete protection. It uses a unidirectional Transient Voltage Suppressor, which is a cost advantage. The series impedance now includes the line fuse, transformer, and bridge rectifier (B) so failure of the line fuse is further reduced. If only Transient Voltage Suppressor 3 is in use, then the bridge rectifier is unprotected and would require a higher voltage and current rating to prevent failure by transients.

Any combination of these three, or any one of these applications, will prevent damage to the load. This would require varying trade-offs in power supply versus protection maintenance (changing the time fuse).

An additional method is to utilize the Transient Voltage Suppressor units as a controlled avalanche bridge. This reduces the parts count and incorporates the protection within the bridge rectifier.

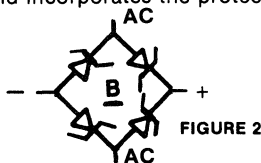


FIGURE 2

Lower wattage ratings are also available in range of 1500 watts (1.5KE Series) and 600 watts (P6KE Series).

For voltage ranges not seen on specification sheet please consult factory or the nearest sales office.

POWER MOSFETS 40-125 WATTS

General Instrument YMOS Power Mosfets

This series of devices range in voltage from 60 to 150 volts BVDSS. On-Resistance values from 40 TO 800 milliohms are readily available.

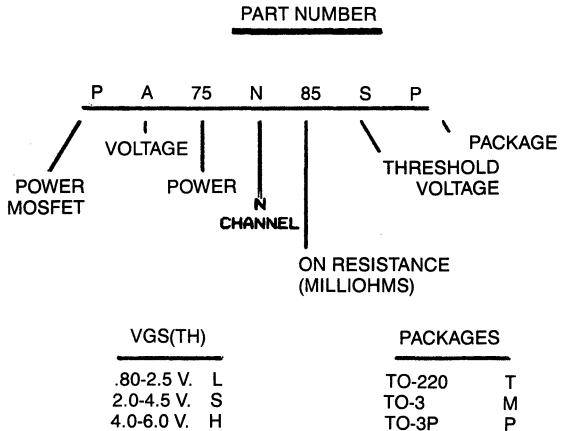
This voltage and on-resistance range is covered by three chip sizes: 40 Watt, 75 Watt, and 125 Watt.

Three package styles are available: TO-220, TO-3, and TO-3P. In addition, the chips are available for power hybrid applications.

General Instrument also offers a low, standard, and high threshold version of the complete Power MOSFET Line. Excellent suppression of the Parasitic Transistor and an exceptionally fast integral diode with low V_f drop make General Instrument Power MOSFETS ideal for DC to DC Converters; motor drives, and solid state switches.

For more information, call the MOSFET hotline at: 516-933-3242.

POWER WATTS	A		B		C	
	60 V		100 V		150 V	
	RDS (ON) MILLIOHMS					
40	200	300	280	400	500	800
75	85	150	140	180	250	400
125	40	60	60	80	130	180

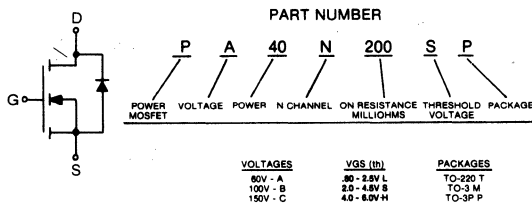


40 WATT MOSFET Y MOS POWER TRANSISTORS

DESCRIPTION

Y MOS Power Transistors represent the State of the art in low voltage, low On Resistance Power MOS FET technology. This unique patented mesh gate topology produces a device with a low percentage change in On Resistance versus temperature ($\% R_{DS(on)}/^{\circ}\text{C}$).

Along with the standard features of Power MOS FET Transistors, the Y MOS Process allows the user to select the range of threshold voltage which is most compatible with the device application.



FEATURES

- Fastest t_{rr} of source-drain rectifier: 125 nsec
- I_{oss} specified at $T_J = 150^{\circ}\text{C}$
- Reduced temperature coefficient of $R_{DS(on)}$: $40\%/^{\circ}\text{C}$, Typical
- Extremely low reverse transfer capacitance
- Low output capacitance
- Low drive current combined with fast switching
- Characterized for use with inductive loads
- No second breakdown

APPLICATIONS

- DC to DC converter
- Motor controls
- Hammer drivers.
- Constant current sources.
- Solid state relays.
- Switching power supplies.

MAXIMUM RATINGS AT $T_c = 25^{\circ}\text{C}$

PARAMETER	PA40N200	PA40N300	PB40N280	PB40N400	PC40N500	PC40N800	UNITS
V_{DS} Drain-Source	60	60	100	100	150	150	V
V_{DGR} Drain-Gate Voltage ($R_{GS} = 1K\Omega$)	60	60	100	100	150	150	V
I_D Continuous Drain Current	11	9	9	7	7	5	A
I_{DM} Pulsed Drain Current	22	18	18	14	14	10	A
V_{GS} Gate-Source Voltage	± 20						V
P_D Max Power Dissipation	40						W
Linear Derating Factor	.32						W/ $^{\circ}\text{C}$
I_{LM} Clamped Inductive Current See Fig. 1 & 2	22	18	18	14	14	10	A
T_J , Tstg Operating and Storage Temperature Range	-55 to 150						$^{\circ}\text{C}$
T_L Max Lead Temperature 1.6mm from case, 10 sec	300						$^{\circ}\text{C}$

40 WATT MOSFET YMO5 POWER TRANSISTORS

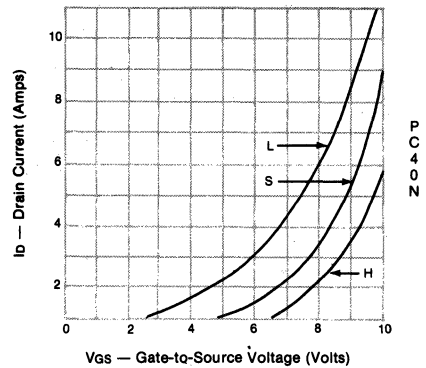
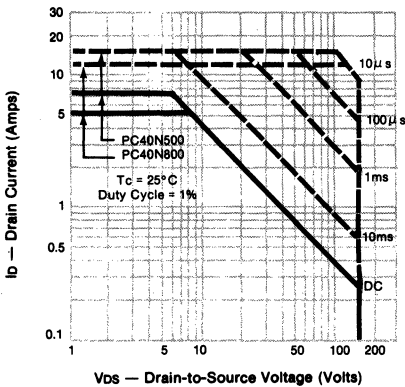
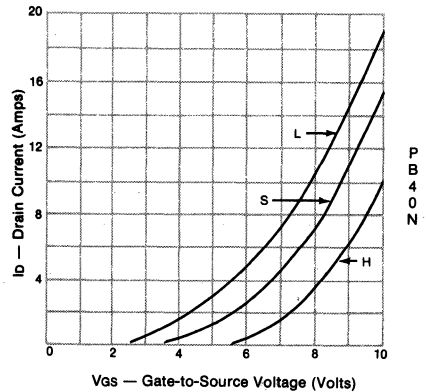
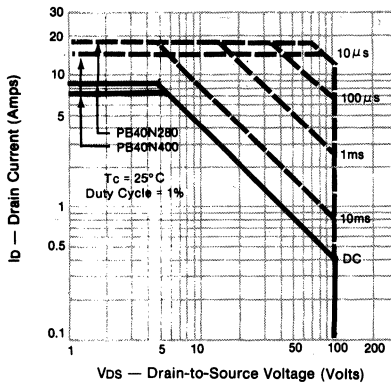
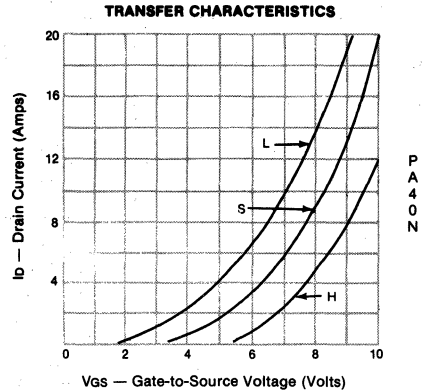
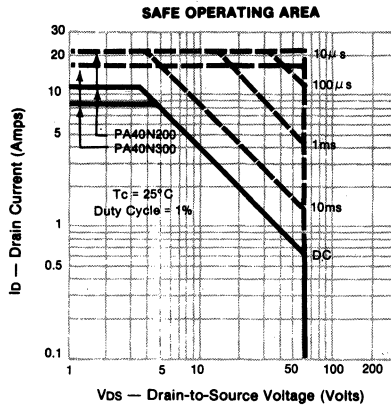
ELECTRICAL CHARACTERISTICS (Tc = 25°C unless otherwise noted)

PARAMETER	TYPE	MIN	TYP	MAX	UNIT	TEST CONDITIONS
BV _{DSS} Drain-Source Breakdown Voltage	PA40N200, PA40N300	60	—	—	V	V _{GS} = 0V, I _{DSS} = .25mA
	PB40N280, PB40N400	100	—	—		
	PC40N500, PC40N800	150	—	—		
I _{DSS} Zero Gate Voltage Drain Current	ALL	—	—	.25	mA	V _{DS} = Max Rating, V _{GS} = 0V, T _J = 25°C
	ALL	—	—	1.0	mA	V _{DS} = Max Rating, V _{GS} = 0V, T _J = 150°C
I _{GSS} Gate-Source Leakage Current	ALL	—	—	100	nA	V _{GS} = 20V
V _{GS(th)} Gate Threshold Voltage	L	.25	—	2.5	V	V _{DS} = V _{GS} , I _D = 5mA
	S	1.0	—	4.5		
	H	4.0	—	6.0		
Static Drain-Source R _{DS(on)} On-Resistance*	PA40N200	—	—	.200	Ω	V _{GS} = 10V, I _D = 2.5A (Note 2)
	PA40N300	—	—	.300		
	PB40N280	—	—	.280		
	PB40N400	—	—	.400		
	PC40N500	—	—	.500		
	PC40N800	—	—	.800		
I _{D(on)} On-State Drain Current*	PA40N200	9	14	—	A	V _{GS} = 10V, V _{DS} = 20V (Note 2)
	PA40N300	8	12	—		
	PB40N280	8	13	—		
	PB40N400	7	10	—		
	PC40N500	6	9	—		
	PC40N800	5	7	—		
g _{FS} Forward Transconductance*	ALL	—	2.0	—	Ω	V _{DS} = 10V, I _D = 2.5A
C _{iss} Input Capacitance (Note 1)	ALL	—	900	—	pF	V _{DS} = 25V
C _{oss} Output Capacitance	ALL	—	85	—	pF	V _{GS} = 0V
C _{rss} Reverse Transfer Capacitance	ALL	—	20	—	pF	f = 1MHz
t _{d(on)} Turn-on Delay Time	ALL	—	35	—	ns	V _{DD} = 25V
t _r Rise Time	ALL	—	58	—	ns	V _{GS} = 12V
t _{d(off)} Turn-off Delay Time	ALL	—	50	—	ns	I _D = 4A
t _r Fall Time	ALL	—	45	—	ns	see fig. 5 & 6
R _{θJC} Thermal Resistance Junction-to-case	ALL	—	—	3.12	°C/W	
Gate Charge (TO 10V) V _{GS}	PA40N200, PA40N300	—	15	—	nC	I _D = 2A
	PB40N280, PB40N400	—	16	—		
	PC40N500, PC40N800	—	17	—		BV _{DSS} = .5 BV _{DSS}
Gate Charge Figure of Merit	PA40N200	—	3	—	nvs	GCFM = R _{DS(on)} (Gate Charge to 10V)
	PA40N300	—	5	—		
	PB40N280	—	5	—		
	PB40N400	—	7	—		
	PC40N500	—	9	—		
	PC40N800	—	14	—		

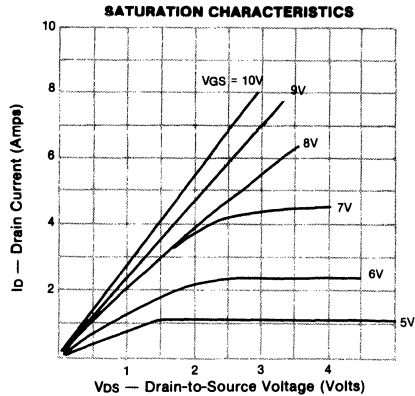
Specifications subject to change without notice.

40 WATT MOSFET VMOS POWER TRANSISTORS

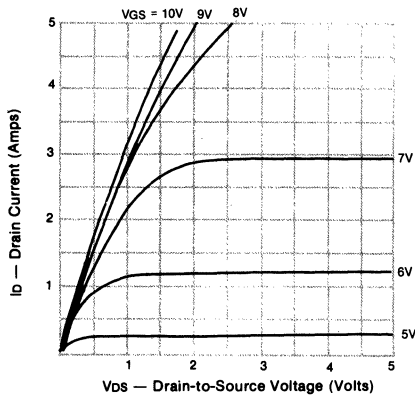
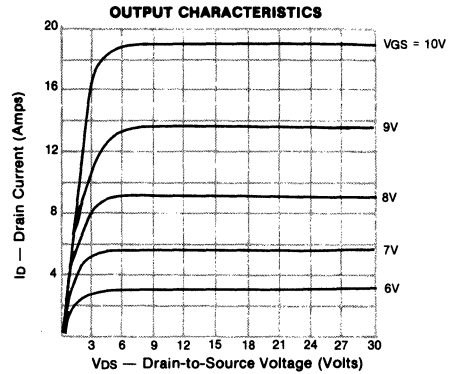
TYPICAL CHARACTERISTICS AT $T_c = 25^\circ\text{C}$



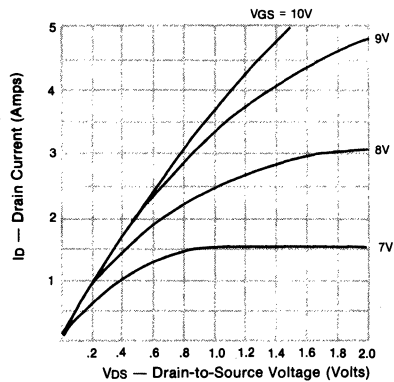
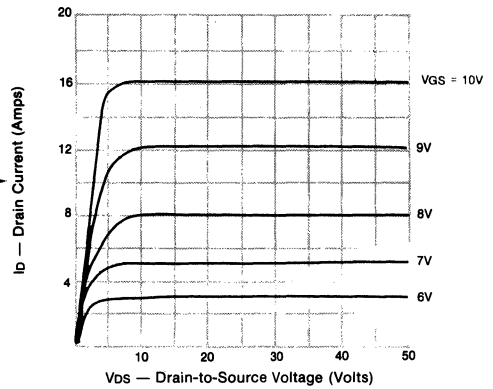
40 WATT MOSFET YMO5 POWER TRANSISTORS



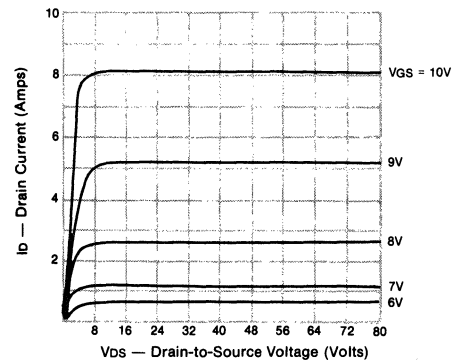
← PA40N →



← PB40N →

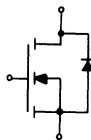


← PC40N →



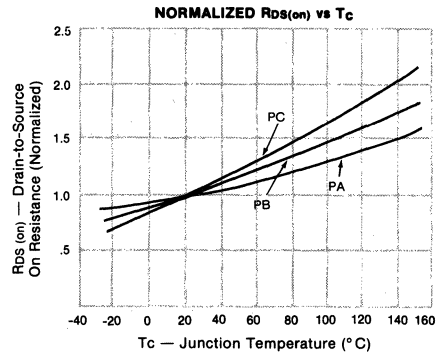
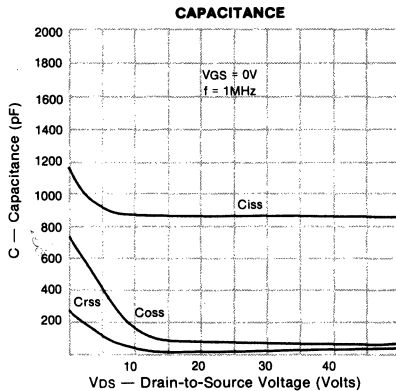
40 WATT MOSFET VMOS POWER TRANSISTORS

SOURCE — DRAIN DIODE RATINGS AND CHARACTERISTICS

PARAMETERS	TYPE	MIN	TYP	MAX	UNIT	TEST CONDITIONS
I _{DR} Continuous Reverse Drain Current	PA40N200	—	—	11	A	Modified MOSFET Symbol showing Reverse P-N Diode 
	PA40N300	—	—	9		
	PB40N280	—	—	10.9		
	PB40N400	—	—	7		
	PC40N500	—	—	7		
	PC40N800	—	—	5		
I _{DRM} Pulsed Reverse Drain Current	PA40N200	—	—	22	A	
	PA40N300	—	—	18		
	PB40N280	—	—	18		
	PB40N400	—	—	14		
	PC40N500	—	—	14		
	PC40N800	—	—	10		
V _{SD} Forward Diode Voltage	ALL	—	1.2	—	V	I _S = I _{DR} , V _{GS} = 0V
t _{rr} Reverse Recovery Time	ALL	—	125	—	ns	I _F = I _{DR} , di/dt = 10A/μs, see fig. 3 & 4
	ALL	—	165	—	ns	I _F = I _{DR} di/dt = 10A/μs, T _J = +150°C

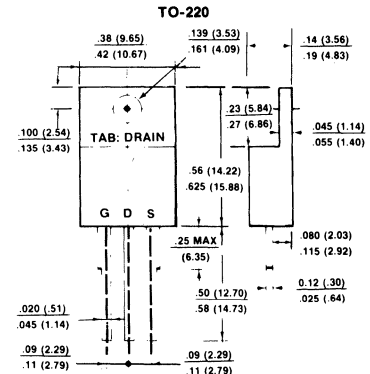
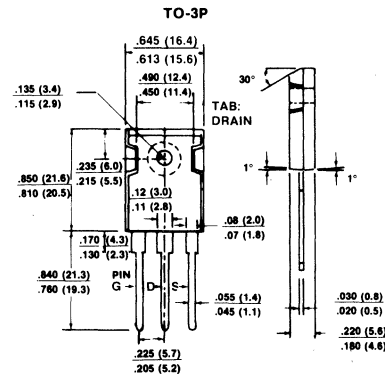
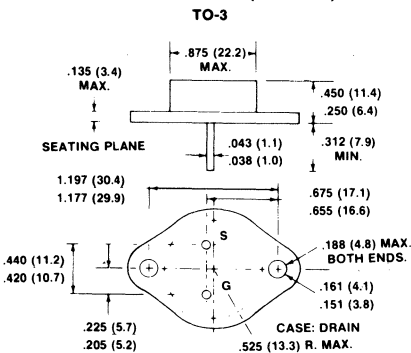
NOTES:

- The effective input capacitance $C_{in} = C_{gs} + (1 + |A_V|) C_{gd}$ for switching applications will be relatively low due to very small value of C_{gd} .
- VGS = 12V for PMH parts.
- Pw = 300 μs; Duty Cycle = 2%.



PACKAGE DIAGRAMS

All dimensions in inches and (millimeters)

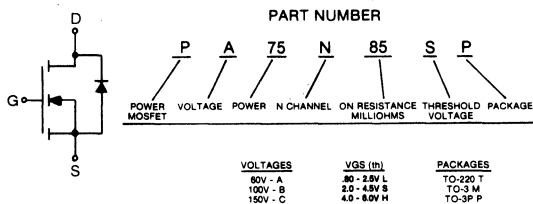


75 WATT MOSFET YMOS POWER TRANSISTORS

DESCRIPTION

YMOS Power Transistors represent the State of the art in low voltage, low On Resistance Power MOS FET technology. This unique patented mesh gate topology produces a device with a low percentage change in On Resistance versus temperature ($\% R_{DS(on)}/^{\circ}\text{C}$).

Along with the standard features of Power MOS FET Transistors, the YMOS Process allows the user to select the range of threshold voltage which is most compatible with the device application.



FEATURES

- Fastest t_{rr} of source-drain rectifier: 135 nsec
- Loss specified at $T_J = 150^{\circ}\text{C}$
- Reduced temperature coefficient of $R_{DS(on)}$: $.40\%/^{\circ}\text{C}$, Typical
- Extremely low reverse transfer capacitance
- Low output capacitance
- Low drive current combined with fast switching
- Characterized for use with inductive loads
- No second breakdown

APPLICATIONS

- DC to DC
- Motor controls
- Hammer drivers.
- Constant current sources.
- Solid state relays.
- Switching power supplies.

MAXIMUM RATINGS AT $T_c = 25^{\circ}\text{C}$

PARAMETER	PA75N85	PA75N120	PA75N150	PB75N140	PB75N180	PC75N250	PC75N400	UNITS
V_{DS} Drain-Source Voltage	60	60	60	100	100	150	150	V
V_{DGR} Drain-Gate Voltage ($R_{GS} = 1K$)	60	60	60	100	100	150	150	V
I_D Continuous Drain Current	22	20	17	18	16	13	10	A
I_{DM} Pulsed Drain Current	44	40	34	36	32	26	20	A
V_{GS} Gate-Source Voltage	± 20							V
P_D Max Power Dissipation	75							W
Linear Derating Factor	.60							W/ $^{\circ}\text{C}$
I_{LM} Clamped Inductive Current See Fig. 1 & 2	44	40	34	36	32	26	20	A
T_J, T_{stg} Operating and Storage Temperature Range	-55 to +150							$^{\circ}\text{C}$
T_L Max Lead Temperature 1.6mm from case, 10 sec	300							$^{\circ}\text{C}$

75 WATT MOSFET

YMOS POWER TRANSISTORS

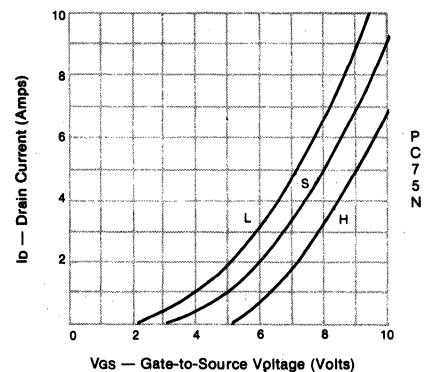
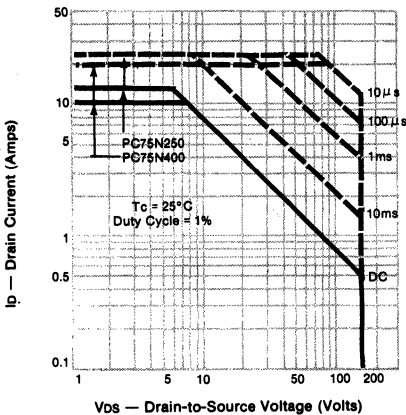
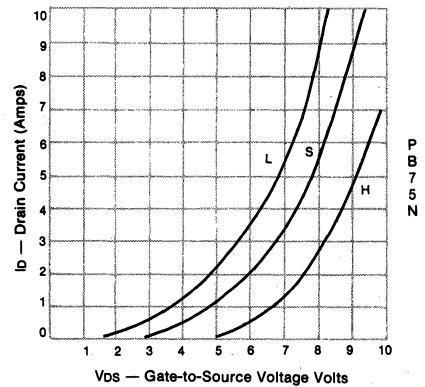
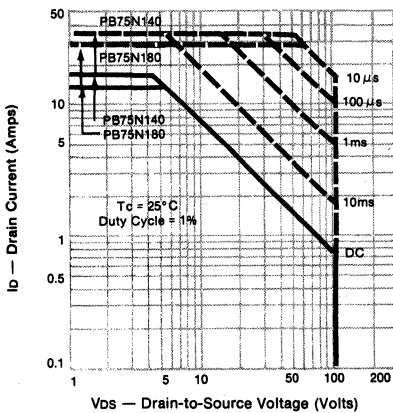
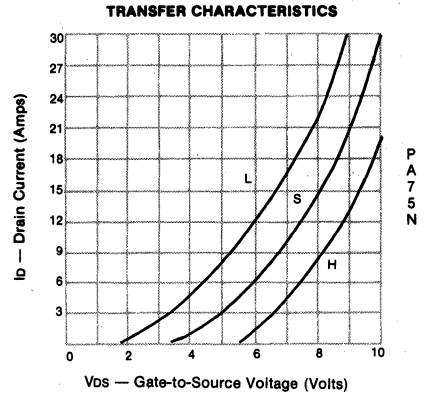
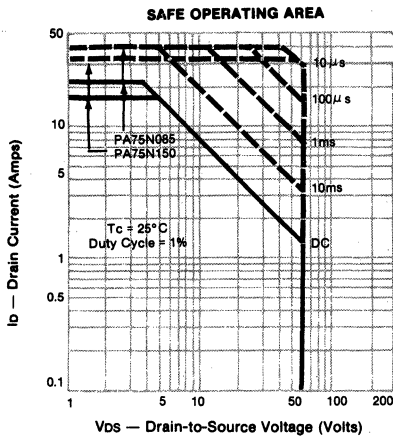
ELECTRICAL CHARACTERISTICS (T_c = 25°C unless otherwise noted)

PARAMETER	TYPE	MIN	TYP	MAX	UNIT	TEST CONDITIONS
BV _{DSS} Drain-Source Breakdown Voltage	PA75N85, 120, 150	60	—	—	V	V _{GS} = 0V, I _{DSS} = .5mA
	PB75N140, PB75N180	100	—	—		
	PC75N250, PC75N400	150	—	—		
I _{DSS} Zero Gate Voltage Drain Current	ALL	—	—	.5	mA	V _{DS} = Max Rating, V _{GS} = 0V, T _J = 25°C
I _{GSS} Gate-Source Leakage Current	ALL	—	—	2.0	mA	V _{DS} = Max Rating, V _{GS} = 0V, T _J = 150°C
V _{GS(th)} Gate Threshold Voltage	L	.8	—	2.5	V	V _{DS} = V _{GS} , I _D = 10mA
	S	2.0	—	4.5		
	H	4.0	—	6.0		
Static Drain-Source	PA75N85	—	—	.085	Ω	V _{GS} = 10V, I _D = 5A (Note 2)
R _{DS(on)}	PA75N120	—	—	.120		
On-Resistance*	PA75N150	—	—	.150		
	PB75N140	—	—	.140		
	PB75N180	—	—	.180		
	PC75N250	—	—	.250		
	PC75N400	—	—	.400		
I _{D(on)} On-State Drain Current*	PA75N85	23	35	—	A	V _{GS} 10V, V _{DS} = 20V (Note 2)
	PA75N120	18	26	—		
	PA75N150	15	22	—		
	PB75N140	16	24	—		
	PB75N180	14	21	—		
	PC75N250	10	15	—		
g _{fs} Forward Transconductance*	PA75N85	7	10	—	A	V _{GS} 10V, V _{DS} = 20V (Note 2)
	PA75N120	18	26	—		
	PA75N150	15	22	—		
	PB75N140	16	24	—		
	PB75N180	14	21	—		
	PC75N250	10	15	—		
C _{iss} Input Capacitance (Note 1)	ALL	—	1500	—	pF	V _{DS} = 25V
C _{oss} Output Capacitance	ALL	—	250	—	pF	V _{GS} = 0V
C _{rss} Reverse Transfer Capacitance	ALL	—	40	—	pF	f = 1MHz
t _{d(on)} Turn-on Delay Time	ALL	—	40	—	ns	V _{DD} = 25V
t _r Rise Time	ALL	—	60	—	ns	V _{GS} = 12V
T _d Turn-off Delay Time	ALL	—	70	—	ns	I _D = 8A
t _f Fall Time	ALL	—	60	—	ns	see fig. 5 & 6
Thermal Resistance R _{θJC} Junction-to-case	ALL	—	—	1.67	°C/W	
Gate Charge (To 10V) V _{GS}	PA75N85, 120, 150	—	27	—	nC	I _D = 4A
	PB75N140, PB75N180	—	29	—		BV _{DSS} = .5 BV _{DSS}
	PC75N250, PC75N400	—	31	—		
Gate Charge Figure of Merit	PA75N85	—	3	—	nvs	GCFM = (R _{DS(on)}) (Gate Charge to 10V)
	PA75N120	—	4	—		
	PA75N150	—	4	—		
	PB75N140	—	4	—		
	PB75N180	—	6	—		
	PC75N250	—	8	—		
	PC75N400	—	13	—		

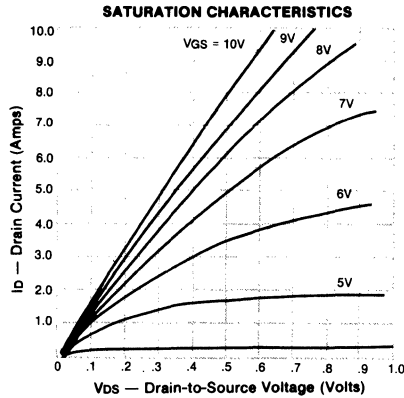
Specification subject to change without notice.

75 WATT MOSFET Y MOS POWER TRANSISTORS

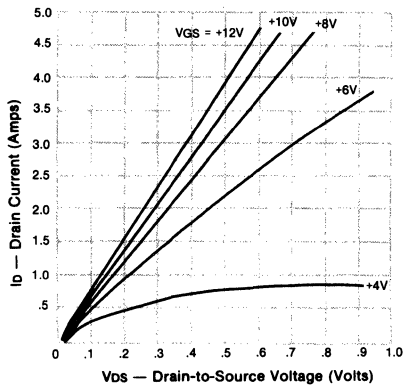
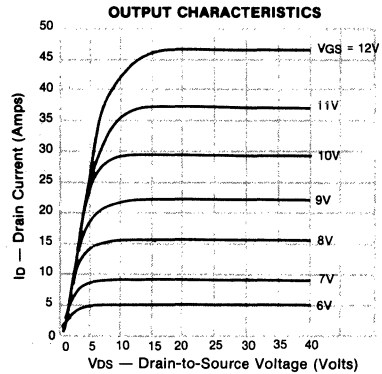
TYPICAL CHARACTERISTICS AT $T_c = 25^\circ\text{C}$



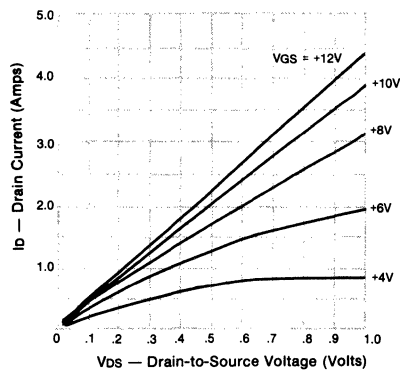
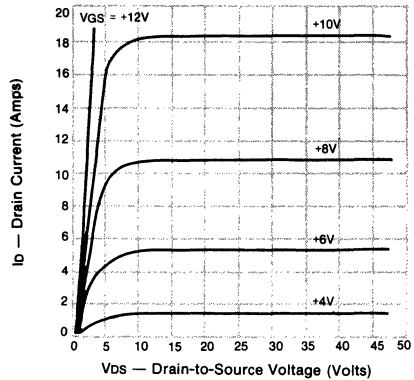
75 WATT MOSFET YMOS POWER TRANSISTORS



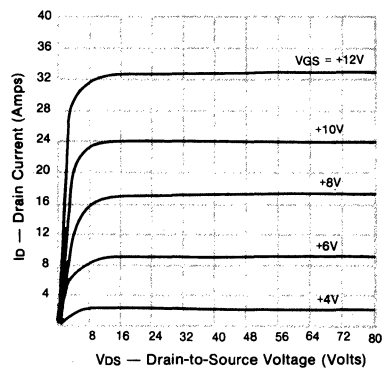
← PA75N →



← PB75N →

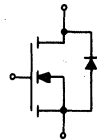


← PC75N →



75 WATT MOSFET VMOS POWER TRANSISTORS

SOURCE — DRAIN DIODE RATINGS AND CHARACTERISTICS

PARAMETERS	TYPE	MIN	TYP	MAX	UNIT	TEST CONDITIONS
IDR Continuous Reverse Drain Current	PA75N85	—	—	22	A	Modified MOSFET Symbol showing Reverse P-N Diode 
	PA75N120	—	—	20		
	PA75N150	—	—	17		
	PB75N140	—	—	18		
	PB75N180	—	—	16		
	PC75N250	—	—	13		
	PC75N400	—	—	10		
IDRM Pulsed Reverse Drain Current	PA75N85	—	—	44	A	
	PA75N120	—	—	40		
	PA75N150	—	—	34		
	PB75N140	—	—	36		
	PB75N180	—	—	32		
	PC75N250	—	—	26		
	PC75N400	—	—	20		
VsDF Forward Diode Voltage	ALL	—	1.2	—	V	Is = IDR, Vgs = 0V
trr Reverse Recovery Time	ALL	—	135	—	ns	If = IDR, di/dt = 10A/μs, see fig. 3 & 4
	ALL	—	170	—	ns	If = IDR di/dt = 10A/μs, Tj = 150°C

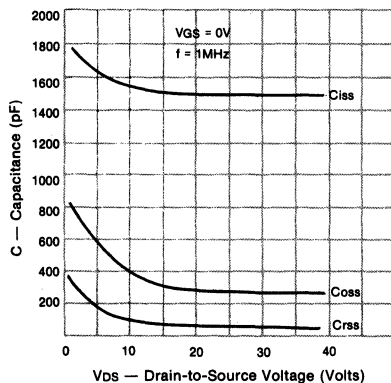
NOTES:

1. The effective input capacitance $C_{in} = C_{gs} + (1 + |A_V|) C_{gd}$ for switching applications will be relatively low due to very small value of C_{gd} .

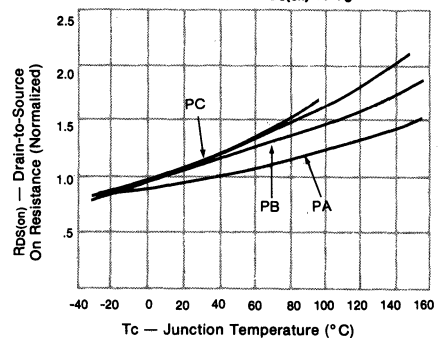
2. Vgs = 12V for PMH parts.

* Pw = 300 μs; Duty Cycle = 2%.

CAPACITANCE



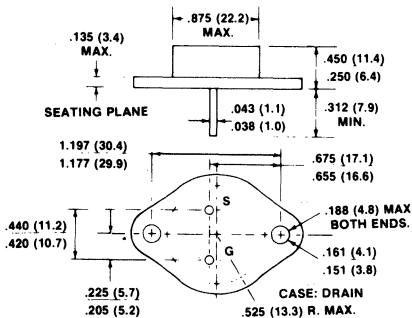
NORMALIZED $R_{DS(on)}$ vs T_c



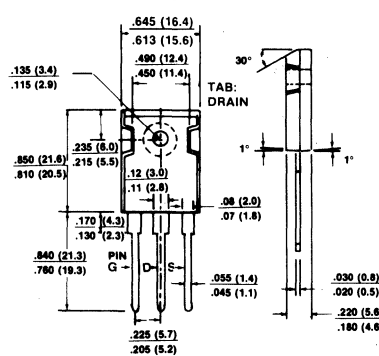
PACKAGE DIAGRAMS

All dimensions in inches and (millimeters)

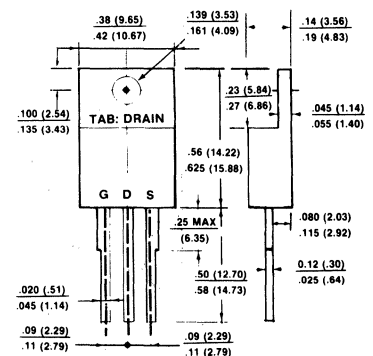
TO-3



TO-3P



TO-220



437

125 WATT MOSFET YMOS POWER TRANSISTORS

DESCRIPTION

YMOS Power Transistors represent the State of the art in low voltage, low On Resistance Power MOS FET technology. This unique patented mesh gate topology produces a device with a low percentage change in On Resistance versus temperature ($\% R_{DS(on)}/^{\circ}\text{C}$).

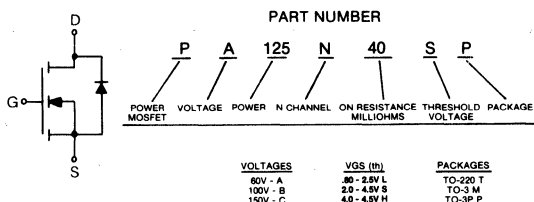
Along with the standard features of Power MOS FET Transistors, the YMOS Process allows the user to select the range of threshold voltage which is most compatible with the device application.

FEATURES

- Fastest t_r of source-drain rectifier: 145 nsec
- I_{OSS} specified at $T_J = 150^{\circ}\text{C}$
- Reduced temperature coefficient of $R_{DS(on)}$: $.40\%/^{\circ}\text{C}$, Typical
- Extremely low reverse transfer capacitance
- Low output capacitance
- Low drive current combined with fast switching
- Characterized for use with inductive loads
- No second breakdown

APPLICATIONS

- DC to DC converter
- Motor controls
- Hammer drivers.
- Constant current sources.
- Solid state relays.
- Switching power supplies.



MAXIMUM RATINGS AT $T_c = 25^{\circ}\text{C}$

PARAMETER	PA125N40	PA125N60	PB125N60	PB125N80	PC125N130	PC125N180	UNITS
V_{DS} Drain-Source Voltage	60	60	100	100	150	150	V
V_{DGR} Drain-Gate voltage ($R_{GS} = 1\text{K}\Omega$)	60	60	100	100	150	150	V
I_D Continuous Drain Current	44	36	36	31	24	20	A
I_{DM} Pulsed Drain Current	88	72	72	62	48	40	A
V_{GS} Gate-Source Voltage	± 20						V
P_D Max Power Dissipation	125						W
Linear Derating Factor	1.0						W/ $^{\circ}\text{C}$
I_{LM} Clamped Inductive Current See Fig. 1 & 2	88	72	72	62	48	40	A
T_J, T_{stg} Operating and Storage Temperature Range	-55 to 150						$^{\circ}\text{C}$
T_L Max Lead Temperature 1.6mm from case, 10 sec.	300						$^{\circ}\text{C}$

125 WATT MOSFET Y MOS POWER TRANSISTORS

ELECTRICAL CHARACTERISTICS (T_c = 25°C unless otherwise noted)

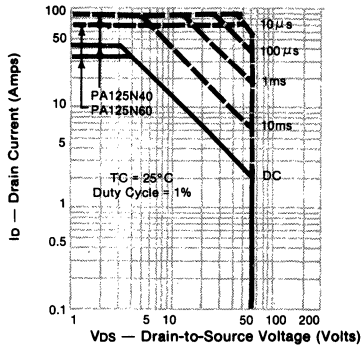
PARAMETER	TYPE	MIN	TYP	MAX	UNIT	TEST CONDITIONS
BV _{DSS} Drain-Source Breakdown Voltage	PA125N40, PA125N60	60	—	—	V	V _{GS} = 0V, I _{DSS} = 1mA
	PB125N60, PB125N80	100	—	—		
	PC125N130, PC125N180	150	—	—		
I _{DSS} Zero Gate Voltage Drain Current	ALL	—	—	1.0	mA	V _{DS} = Max Rating, V _{GS} = 0V, T _J = 25°C
	ALL	—	—	4.0	mA	V _{DS} = Max Rating, V _{GS} = 0V, T _J = 150°C
I _{GSS} Gate-Source Leakage Current	ALL	—	—	100	nA	V _{GS} = 20V
V _{GS(TH)} Gate Threshold Voltage	L	.8	—	2.5	V	V _{DS} = V _{GS} , I _D = 20mA
	S	2.0	—	4.5		
	H	4.0	—	6.0		
Static Drain-Source R _{DS(on)} On-Resistance*	PA125N40	—	—	.040	Ω	V _{GS} = 10V, I _D = 10A (Note 2)
	PA125N60	—	—	.060		
	PB125N60	—	—	.060		
	PB125N80	—	—	.080		
	PC125N130	—	—	.130		
	PC125N180	—	—	.180		
I _{D(on)} On-State Drain Current*	PA125N40	48	60	—	A	V _{GS} = 10V, V _{DS} = 20V (Note 2)
	PA125N60	41	58	—		
	PB125N60	39	55	—		
	PB125N80	34	47	—		
	PC125N130	30	42	—		
	PC125N180	25	35	—		
g _{fs} Forward Transconductance*	ALL	—	6.0	—	Ω	V _{DS} = 10V, I _D = 10A
C _{iss} Input Capacitance (Note 1)	ALL	—	2800	—	pF	V _{DS} = 25V
C _{oss} Output Capacitance	ALL	—	400	—	pF	V _{GS} = 0V
C _{rss} Reverse Transfer Capacitance	ALL	—	100	—	pF	f = 1MHz
t _{d(on)} Turn-on Delay Time	ALL	—	45	—	ns	V _{DD} = 25V
t _r Rise Time	ALL	—	65	—	ns	V _{GS} = 12V
t _{d(off)} Turn-off Delay Time	ALL	—	90	—	ns	I _D = 16A
t _f Fall Time	ALL	—	70	—	ns	see fig. 5 & 6
Thermal Resistance R _{θJC} Junction-to-case	ALL	—	—	1.0	°C/W	
Gate Charge (To 10V) V _{GS}	PA125N40, PA125N60	—	62	—	nC	I _D = 6A B _{VDS} = .5 BV _{DSS}
	PB125N60, PB125N80	—	70	—		
	PC125N130, PC125N180	—	70	—		
Gate Charge Figure of Merit	PA125N40	—	3	—	nvs	GCFM = (R _{DS(on)}) (Gate Charge to 10V)
	PA125N60	—	4	—		
	PB125N60	—	5	—		
	PB125N80	—	6	—		
	PC125N130	—	10	—		
	PC125N180	—	13	—		

Specifications subject to change without notice.

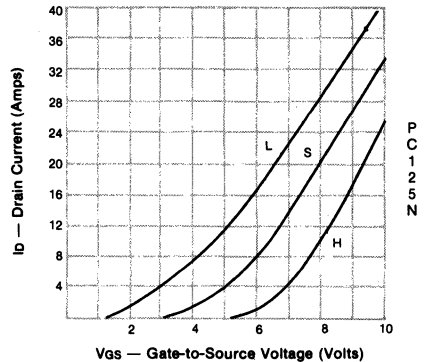
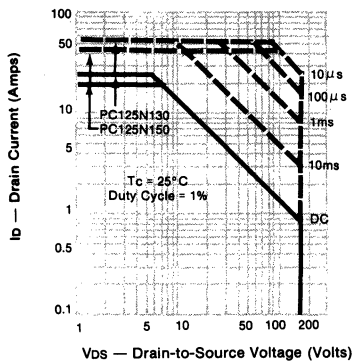
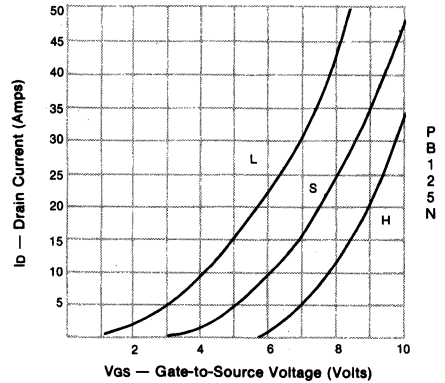
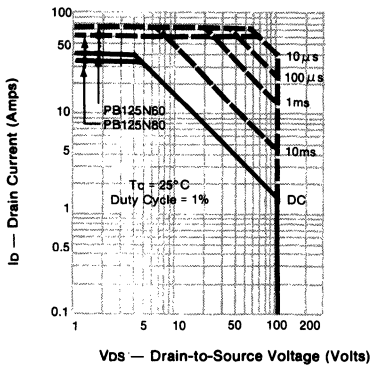
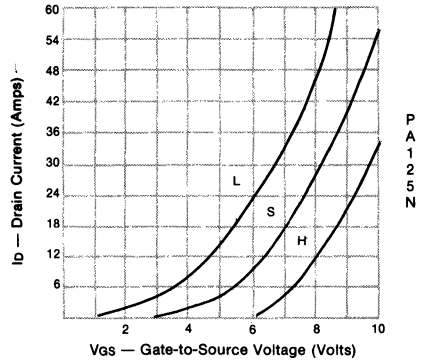
125 WATT MOSFET VMOS POWER TRANSISTORS

TYPICAL CHARACTERISTICS AT $T_c = 25^\circ\text{C}$

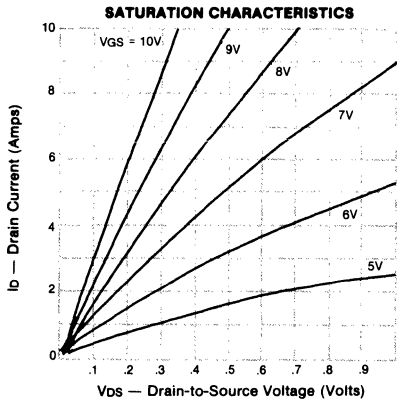
SAFE OPERATING AREA



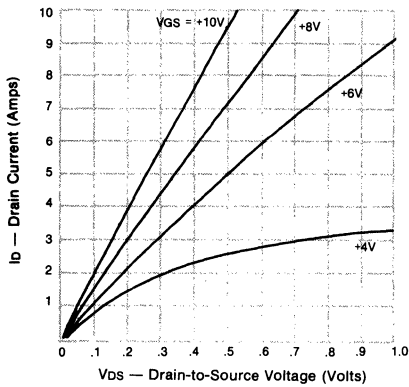
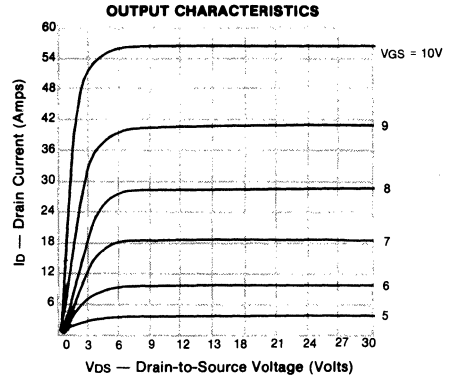
TRANSFER CHARACTERISTICS



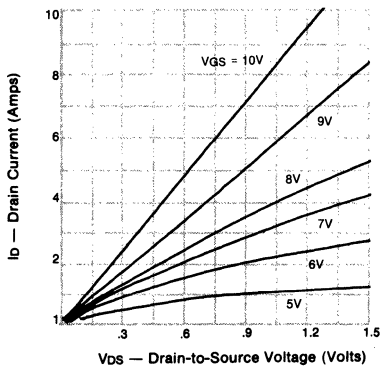
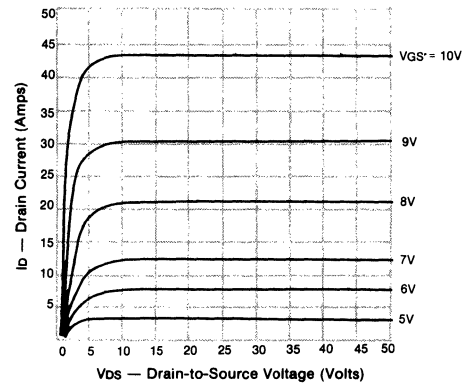
125 WATT MOSFET YMO5 POWER TRANSISTORS



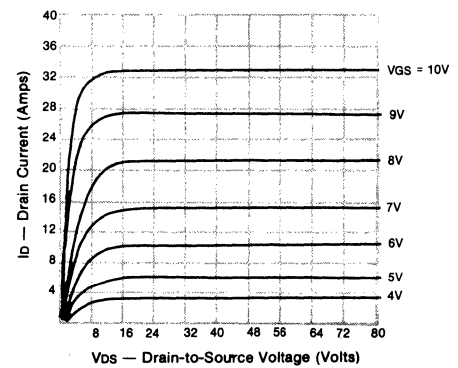
← PA125N →



← PB125N →



← PC125N →



125 WATT MOSFET YMOS POWER TRANSISTORS

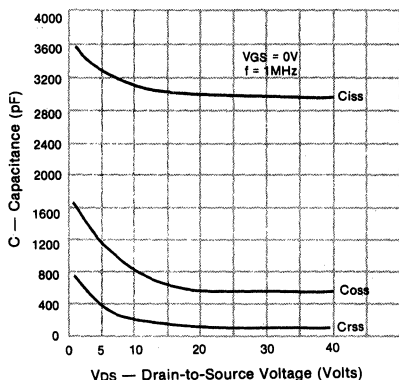
SOURCE — DRAIN DIODE RATINGS AND CHARACTERISTICS

PARAMETERS	TYPE	MIN	TYP	MAX	UNIT	TEST CONDITIONS
IDR Continuous Reverse Drain Current	PA125N40	—	—	44	A	Modified MOSFET Symbol showing Reverse P-N Diode
	PA125N60	—	—	36		
	PB125N60	—	—	36		
	PB125N80	—	—	31		
	PC125N130	—	—	24		
	PC125N180	—	—	20		
IDRM Pulsed Reverse Drain Current	PA125N40	—	—	88	A	
	PA125N60	—	—	72		
	PB125N60	—	—	72		
	PB125N80	—	—	60		
	PC125N130	—	—	48		
	PC125N180	—	—	40		
VSD Forward Diode Voltage	ALL	—	1.2	—	V	IS = IDR, VGS = 0V
trr Reverse Recovery Time	ALL	—	145	—	ns	IF = IDR, di/dt = 10A/μs see fig. 3 & 4
	ALL	—	180	—	ns	IF = IDR di/dt = 10A/μs, TJ = 150°C

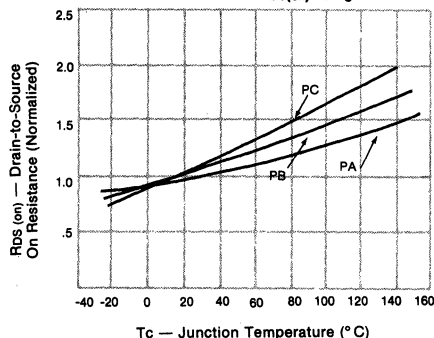
NOTES:

- The effective input capacitance $C_{in} = C_{gs} + (1 + |AV|) C_{gd}$ for switching applications will be relatively low due to very small value of C_{gd} .
- $V_{GS} = 12V$ for PMH parts.
- $P_w = 300 \mu s$; Duty Cycle = 2%.

CAPACITANCE



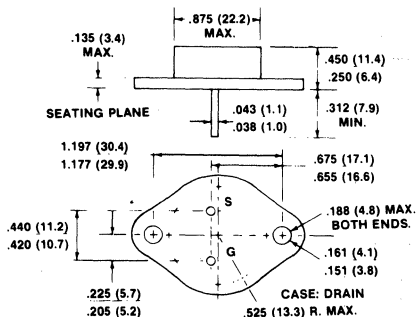
NORMALIZED $R_{DS(on)}$ vs T_c



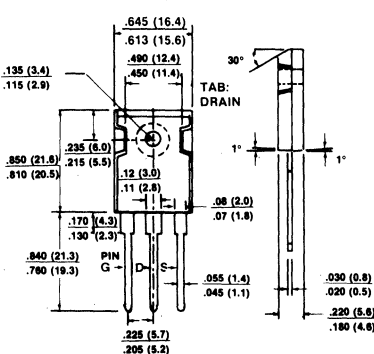
PACKAGE DIAGRAMS

All dimensions in inches and (millimeters)

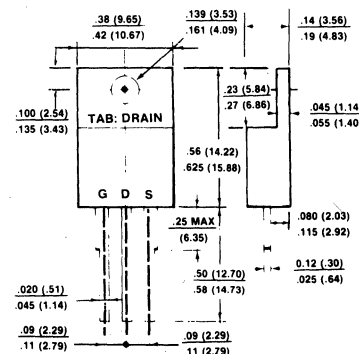
TO-3



TO-3P



TO-220



443

PACKAGING BULK AND TAPE AND REEL

Packaging Codes

Code Packaging Types

PKG1	Bulk
PKG2	26MM Horizontal Reel
PKG3	26MM Horizontal Ammo Pack
PKG4	Std. Horizontal Reel (Metric 52.4MM)
PKG5	Horizontal Reel (English Dimensions 2.0")
PKG6	Avisert, Cathode Up, Reel
PKG7	Avisert, Cathode Up, Reel, Lead Coating
PKG8	Avisert, Cathode Up, Ammo Pack
PKG9	Avisert, Cathode Up, Ammo Pack, Lead Coating
PKG10	Avisert, Cathode Down, Reel
PKG11	Avisert, Cathode Down, Reel, Lead Coating
PKG12	Avisert, Cathode Down, Ammo Pack
PKG13	Avisert, Cathode Down, Ammo Pack, Lead Coating
PKG14	Panasert, Cathode Up, Reel
PKG15	Panasert, Cathode Up, Reel, Lead Coating
PKG16	Panasert, Cathode Up, Ammo Pack
PKG17	Panasert, Cathode Up, Ammo Pack, Lead Coating
PKG18	Panasert, Cathode Down, Reel
PKG19	Panasert, Cathode Down, Reel, Lead Coating
PKG20	Panasert, Cathode Down, Ammo Pack
PKG21	Panasert, Cathode Down, Ammo Pack, Lead Coating
PKG22	Other
PKG23	Std. Horizontal Ammo Pack (Metric 52MM)
PKG24	Horizontal Ammo Pack (English Dimensions)
PKG25	Surface Mount, 12MM Tape, 7" Diameter Reel
PKG26	Surface Mount, 12MM Tape, 13" Diameter Reel
PKG29	Metric Horizontal Reel, 14" Diameter Reel (52.4MM Spacing)
PKG30	Metric Horizontal Reel, 14" Diameter Reel (63.5MM Spacing)
PKG31	Metric Horizontal Reel, 14" Diameter Reel (73MM Spacing)

REEL PACKAGING

Axial lead units are packed in accordance with EIA Standard RS-296-D plus specifications given below and the diagrams given below which are referred to in the specifications.

Table 1

COMPONENT CASE TYPE	UNITS PER REEL	COMPONENT SPACING "A" FIG.		TAPE SPACING "B" FIG. 3		APPROX. REEL DIMENSION "D" FIG.		ALIGNMENT ALIGNMENT "E" FIG.		APPROX. GROSS WEIGHT PER REEL PACKED		
		ea.	in.	mm	in.	cm	in.	cm	in.	mm	lbs.	kg.
DO15/F126	3500	.200	5.0	2.06	5.24	13	33	.047	1.2	5.06	2.3	
G4	2500	.200	5.0	2.06	5.24	13	33	.047	1.2	5.29	2.4	
GP20	1200	.395	10.0	2.06	5.24	13	33	.047	1.2	3.52	1.6	
DO201AD	1200	.395	10.0	2.06	5.24	13	33	.047	1.2	5.50	2.5	
DO41	5000	.200	5.0	2.06	5.24	13	33	.047	1.2	5.76	2.6	
GP10	Verticle	2000	See Fig. 4 & 5		—	—	14	36	.079	2.0	2.40	1.09
DO204AP		4000	.200	5.0	2.06	5.24	13	33	.047	1.2	5.76	2.6
G3	1500	.395	10.0	2.06	5.24	13	33	.047	1.2	4.80	2.2	
DO204MB	4000	.200	5.0	2.06	5.24	13	33	.047	1.2	3.47	1.7	
P600	700	.395	10.0	2.06	5.24	13	33	.047	1.2	5.06	2.3	
GL41 Surface Mount	1500/5000	See Fig. 6				7/13	178/330	See Fig. 6		.471/1.49	.214/.68	
GL27 Surface Mount	400/1200	See Fig. 6				7/13	178/330	See Fig. 6		.84/2.53	.382/1.15	
GP10/GP15	5000/3500	.200	5.0	2.5	6.35	14	35.6	.047	1.2	6.0/5.2	2.7/2.36	
GP10	5000	.200	5.0	2.874	7.3	14	35.6	.047	1.2	6.0	2.7	

The C dimension of Fig. 3 is between .125" (3.175) and .250" (6.35) greater than the length of the component involved.

Dimensions in inches and (millimeters).

Table 2

Component T Body Dia.	Metric Spec.		Cumulative pitch tolerance
	Components spacing A (Lead to lead)	Inside tape spacing B	
	± 0.5 mm (.020")	± 1.5 mm (.059")	
0 mm to 5 mm (0 to .197")	5.0 mm	52.4 mm	Not exceed 1.0 mm over 20 consecutive components
5.01 mm to 10 mm (.197" to .394")	10 mm	52.4 mm	Not exceed 1.0 mm over 10 consecutive components

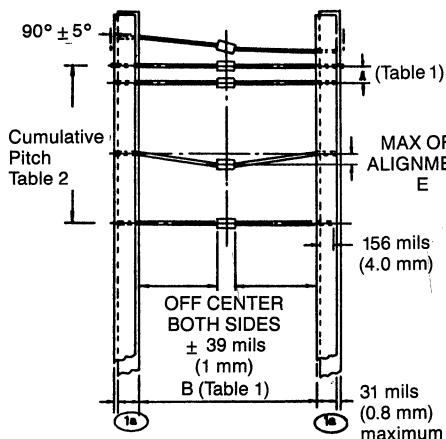


Figure 3

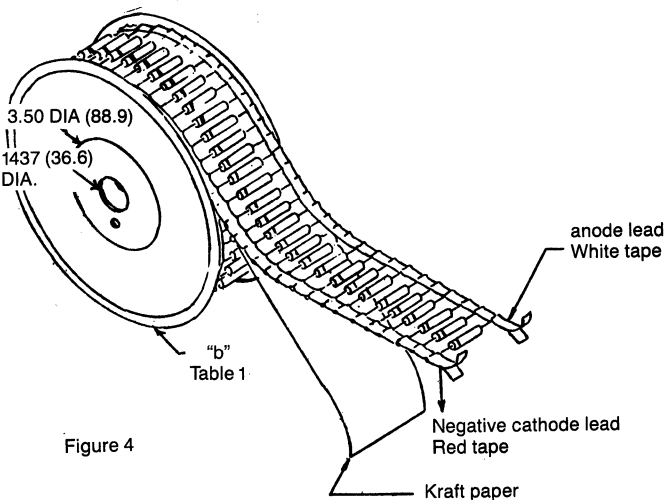
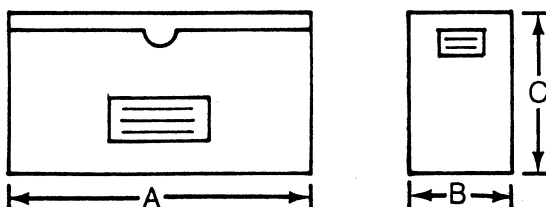


Figure 4

BULK PACKAGING

Device Type	Box Size		Quantity	Gross Weight	
	in.	cm.	ea.	lbs	kg.
GL41 Surface Mount	8 x 3.5 x 1	20.3 x 8.8 x 2.54	4000	.55	.25
GL27 Surface Mount	8 x 3.5 x 1	20.3 x 8.8 x 2.54	1000	.55	.25
DO41	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	5000	2.38	1.08
DO15, DO204AP, F-126	8 x 3.5 x 1	20.3 x 8.8 x 2.54	500	.55	.25
GP20	12 x 3.6 x 2.5	30.4 x 9.1 x 6.3	1000	1.76	.8
P600	12 x 3.6 x 2.5	30.4 x 9.1 x 6.3	500	2.30	1.0
G4, G3	12 x 3.2 x 2.5	30.4 x 8.1 x 6.3	1000	2.5	1.1
DO204MB	8 x 3.5 x 1	20.3 x 8.8 x 2.54	1000	.77	.35
TO220, TO220CT	Anti-Static Plastic Tubes 20.5 in length	52 in length	50 per tube	.308	.14
TO3P	Anti-Static Plastic Tubes 20.5 in length	52 in length	30 per tube	.572	.26
TO3	Polyfoam Container 12.8 x 6.8 x 3.0	32.5 x 17.3 x 7.6	50	1.54	0.70
DO201AD	12 x 3.6 x 2.5	30.4 x 9.1 x 6.3	1000	2.5	1.1
KBP, 2KBP Polyfoam Container	14.8 x 8.8 x 3.5	37.6 x 22.3 x 8.9	550	7.0	3.2
KBU4, 6, 8 Polyfoam Container	14.8 x 8.8 x 3.5	37.6 x 22.3 x 8.9	400	7.5	3.4
KBL Polyfoam Container	14.8 x 8.8 x 3.5	37.5 x 22.0 x 9.0	500	7.5	3.4
KBPC8	8.8 x 8.8 x 1.8	22.3 x 22.3 x 4.5	200	3.52	1.6
KBPC1, KBPC6	4.8 x 7.8 x 1.8	19.8 x 19.8 x 4.5	200	2.2	1.0
KBPC 10/35, GIB25, 25SP	14.8 x 8.8 x 3	37.6 x 22.3 x 7.6	100	7.0	3.2
GIB35 Polyfoam Container	10.0 x 6.3 x 1.7	25.4 x 16.0 x 4.3	36	3.3	1.5
15IP	8.8 x 6 x 2.3	22.3 x 15.2 x 5.8	60	1.87	.85
AR, ARLC	20.5 length	Plastic Bags	200	.84	.38
DF-M Anti-Static Plastic Tubes		52 length	50 per tube	.12	.05
WM	20.5 length	Plastic Bags	100	.37	.17
GPP1, 5, ERF1, 3, 5, SCH3, 5		Chip Tray	100	.042	.019
EFR8	2.0 x 2.0 x .35	5.1 x 5.1 x 0.9	800	.044	.020
SCH1	2.0 x 2.0 x .35	5.1 x 5.1 x 0.9	400	.042	.019
SCH10	2.0 x 2.0 x .35	5.1 x 5.1 x 0.9	49	.042	.019

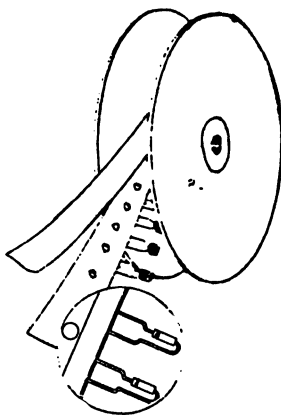
AMMO BOX PACKAGING



Packaging	Available Products	Packaging Codes	Dimension "A"	Dimension "B"	Dimension "C"	Q'ty per Box
26MM Horizontal Ammo Pack	DO-41 Outline	PKG 3	274MM	44MM	95MM	3K
	DO-15 Outline					1.5K
52MM Horizontal Ammo Pack	DO-41	PKG 23	254MM	79MM	110MM	3K
	DO-15 Outline	PKG 24				2K
Vertical (Avisert, Panasert) Ammo Pack	GP10, RGP10 0.65MM Lead Diameter	PKG 8, 9, 12, 13, 16 17, 20, 21	328MM	42MM	200MM	2K

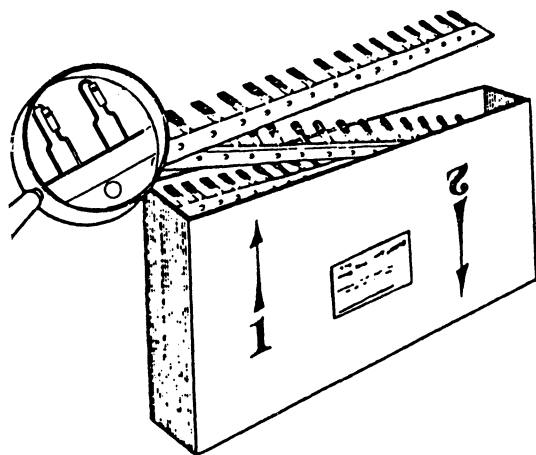
PACKING METHODS

Avisert: PKG6	Panasert: PKG14
PKG7	PKG15
PKG8	PKG16
PKG9	PKG17
PKG10	PKG18
PKG11	PKG19
PKG12	PKG20
PKG13	PKG21



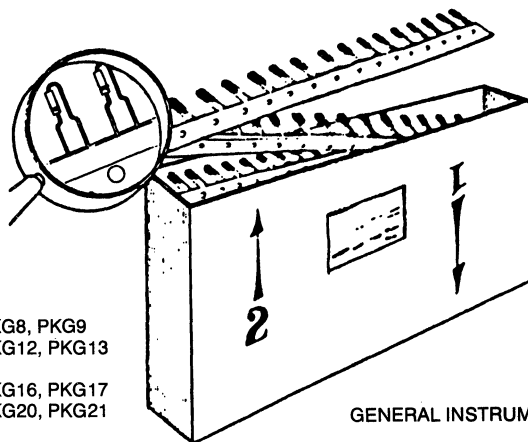
PKG6, PKG7
PKG10, PKG11

PKG14, PKG15
PKG18, PKG19



PKG8, PKG9
PKG12, PKG13

PKG16, PKG17
PKG20, PKG21



GENERAL INSTRUMENT

VERTICAL REEL PACKAGING

Standard polarity cathode oriented away from sprocket holes.
(Optional polarity cathode oriented toward sprocket holes.)

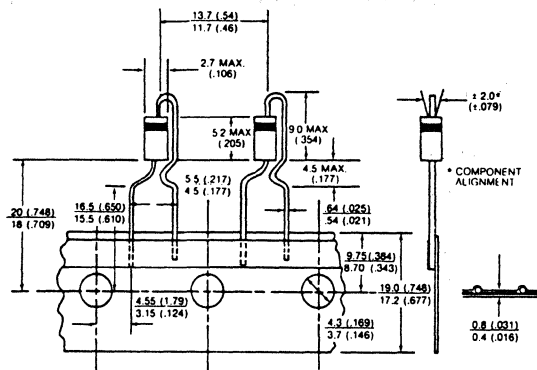


FIG. 4 — PANASERT

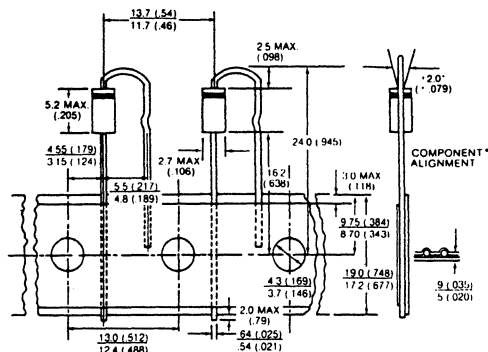
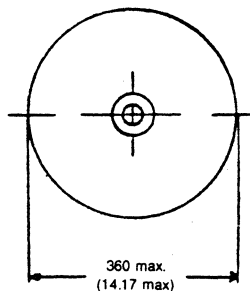
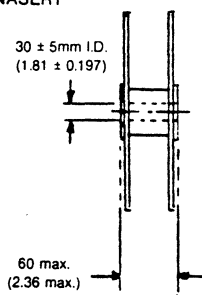


FIG. 5 — AVISERT



ALL DIMENSIONS IN MILLIMETERS (INCHES)

Package per EIA/JEDEC standard RS-468. Available on reels or fan fold box (ammo pack).
Available only for GP10 products utilizing 0.65mm (.25) diameter leads.

SURFACE MOUNT DEVICE PACKAGING

Packaged per EIA/JEDEC standard RS-481, using 12mm blister tape.
Available on 7 inch (1500 ct.) or 13 inch (5000 ct.) diameter reels.
Available products: GL41, RGL41, EGL41, 1N6478 THRU 1N6484 and ZGL41.

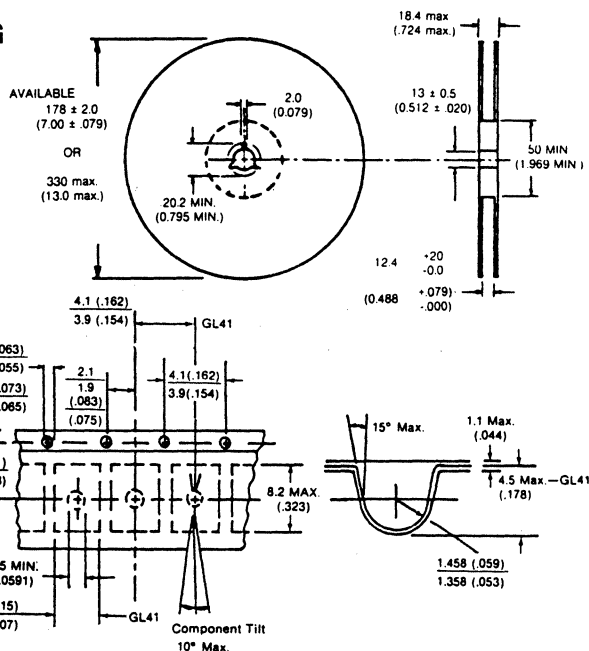
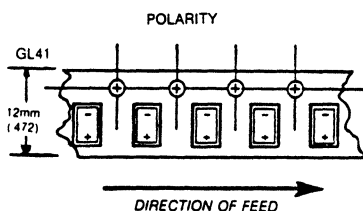
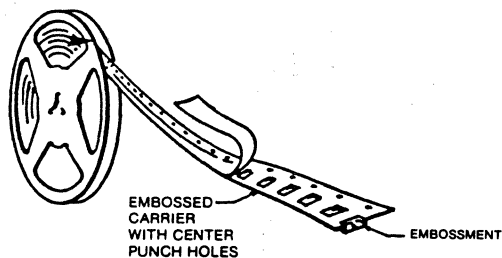


FIG. 6

ALL DIMENSIONS IN MILLIMETERS (INCHES)

HEADQUARTERS: 600 WEST JOHN STREET, HICKSVILLE, NEW YORK 11802
TEL: (516) 933-3333

UNITED STATES SALES OFFICES

South Eastern Regional Sales Office

General Instrument Corporation
3030 Holcomb Bridge Road, Suite F
Norcross, GA 30071
Tel: (404) 446-3805
TWX: 510-101-3222

North Eastern Regional Sales Office

General Instrument Corporation
120 Andrews Road
Hicksville, NY 11802
Tel: (516) 933-3200
TWX: 310-376-8690

Central Regional Sales Office

General Instrument Corporation
2355 S. Arlington Heights Road
Arlington Heights, IL 60005
Tel: (312) 364-5880
TWX: 910-222-0431
FAX: 312-364-0649

Western Regional Sales Office

General Instrument Corporation
21601 Vanowen Street, Suite 205
Canoga Park, CA 91303
Tel: (818) 992-0982
TWX: 910-322-1980

UNITED STATES

ALABAMA

Electronic Mfg. Agents
309 Jordan Lane N.W.
Huntsville, ALA 35805
Tel: (205) 830-4030
Twx: 810 726-2110

ARIZONA

Fred Board Associates
7353 Sixth Avenue
Scottsdale
Tel: (602) 994-9388
TWX: 910-950-1195

CALIFORNIA

Addem
Chestnut Plaza
1015 Chestnut Avenue
Suite D3
Carlsbad
Tel: (619) 729-9216

Ewing-Foley
895 Sherwood Avenue
Los Altos
Tel: (415) 941-4525

Varigon Associates Inc.
137 Eucalyptus
El Segundo
Tel: (213) 322-1120
TWX: 910-348-7141

Varigon Associates Inc.
1800 E. Garry Street
Suite 204
Santa Ana
Tel: (714) 545-3230

Varigon Associates Inc.
22976 El Toro Road
Suite 1
El Toro
Tel: (714) 855-0233

COLORADO

Straube Associates Inc.
7970 Sheridan Boulevard
Suite C
Westminster
Tel: (303) 426-0890
TWX: 910-938-0390

FLORIDA

"C" Associates
251 Maitland Avenue
Altamonte Centre
Suite 305
Altamonte Springs
Tel: (305) 831-1717

"C" Associates
2020 W. McNab
Suite 112
Ft. Lauderdale, FL 33309
Tel: (305) 972-9200

GEORGIA

Electronic Mfg. Agents
620 Colonial Park Dr.
Roswell, GA 30075
Tel: (404) 992-7240
Twx: 810-725-2110

ILLINOIS

Metcom Assoc. Corp.
2 Talcott Road
Park Ridge
Tel: (312) 696-1490
TWX: 910-253-5941

INDIANA

Valentine & Associates
1000 North Madison Avenue
P.O. Box 242
Greenwood
Tel: (317) 888-2260
TWX: 810-260-2231

Valentine & Associates
1638 Lincolnway East
Suite B
Southbend
Tel: (219) 288-7070
TWX: 810-260-2231

IOWA

Dy-Tronix Inc.
Suite 103
23 Twixt Town Road
Cedar Rapids
Tel: (319) 377-8275

KANSAS

Dy-Tronix Inc.
1999 Amidon
Suite 322
Wichita
Tel: (316) 838-0834

MASSACHUSETTS

Bay Colony Representatives Inc.
1610 Worcester Road
Suite 344A
Framingham
Tel: (617) 620-0607
TLX: 951588

MICHIGAN

Rathsburg Associates
16621 E. Warren Avenue
Detroit
Tel: (313) 882-1717
TWX: 810-243-4064

MINNESOTA

Hi-Tech
11200 W. 78th St.
Suite 210
Eden Prairie, MN 55344
Tel: (612) 944-7274
TWX: 910-997-1169

MISSOURI

Dy-Tronix Inc.
3407 Bridgeland
Bridgeton
Tel: (314) 291-4777
TWX: 910-726-0646

Dy-Tronix Inc.
8801 E. 63rd Street
Suite 108
Raytown
Tel: (816) 356-6340

NEW JERSEY

Janco Technology
71 Grand Avenue
Palisades Park
Tel: (201) 941-4008
(203) 743-9436

Technical Marketing Group
705 Cedar Lane
Teaneck
Tel: (201) 692-0200
TWX: 710-990-5086

NEW MEXICO

Q.A. Electronics
2730 San Pedro N.E.
Suite H
Albuquerque, NM 87110
Tel: (505) 888-1121
Tlx: 660444

NEW YORK

Quality Components Inc.
116 East Fayette Street
Manilus
Tel: (315) 682-8885
TWX: 710-545-0663

Quality Components Inc.
3343 Harlem Road
Buffalo
Tel: (716) 837-5430

Technical Marketing Group
20 Broad Hollow Road
Suite 3001
Melville
Tel: (516) 351-8833
TWX: 910-997-3030

NORTH CAROLINA

Zucker Associates Inc.
P.O. Box 19868
Raleigh
Tel: (919) 782-8433
TWX: 510-928-0513

OHIO

G & H Sales Company
P.O. Box 43290
7754 Camargo Road
Cincinnati
Tel: (513) 272-0580
TWX: 810-460-8868

G & H Sales Company
P.O. Box 91
Grove City
Tel: (614) 878-1128

G & H Sales Company
P.O. Box 391088
36370 Timber Lane Drive
Solon
Tel: (216) 248-8490

OKLAHOMA

Bonser-Philhower
4614 So. Knoxville
Tulsa
Tel: (918) 744-9964

OREGON

Vantage
7100 S.W. Hampton
Suite 205
Tigard
Tel: (503) 620-3280

PENNSYLVANIA

Bresson Associates
107 Forrest Avenue
Narberth
Tel: (215) 664-6460
TWX: 510-662-4468

Russel F. Clark Co. Inc.
10517 Lindberg Avenue
Pittsburgh
Tel: (412) 242-9500

TEXAS

Bonser-Philhower
8200 Mopac Expressway
Suite 120
Austin, TX 78759
Tel: (512) 346-9186

Bonser-Philhower
689 W. Renner Road
Suite C
Richardson
Tel: (214) 234-8438
TWX: 910-867-4752

Bonser-Philhower
11321 Richmond Avenue
Suite 100A
Houston, TX 77082
Tel: (713) 531-4144
TWX: 910-880-4053

Q.A. Electronics
444 Executive Center Blvd.
Suite 117
El Paso, TX 79902
Tel: (915) 533-2658

UTAH

Straube Associates Inc.
3509 South Main Street
Salt Lake City
Tel: (801) 263-2640
TWX: 910-925-4026

WASHINGTON

Vantage
300 120th Avenue N.E.
Bldg. 7 Suite 207
Bellevue
Tel: (206) 455-3460
TWX: 910-443-2308

WISCONSIN

Metcom Assoc. Corp.
237 S. Curtis Road
West Allis
Tel: (414) 476-1300
TWX: 910-262-3183

PUERTO RICO

Electronic Sales Associates
Calle 203-GO-11
Country Club 3rd Ext.
Rio Piedras, PR 00924
Tel: (809) 762-6459/6707
TLX: 345-0328

CANADA

Davetek Marketing
8148 Riel Place
Vancouver, B.C.
V5S 4B3
Tel: (604) 430-3680

Pipe-Thompson Ltd.
5468 Dundas Street West
Suite 206
Islington, Ontario
Canada M9B 6E3
Tel: (416) 236-2355
TWX: 610-492-4367

INTERNATIONAL SALES OFFICES

Germany, France, Austria and Switzerland

General Instrument Deutschland GmbH
Freischuetzstr 96
8000 Munchen 81
Tel: (49-89) 95997-27
Telex: 524523

ITALY

G.I. Italia Divisione Semiconduttori Discreti
Via Quintiliano 27
20138 Milano, Italy
Tel: (02) 552258/504605/5062584
Telex: 314233

UNITED KINGDOM

General Instrument (UK) Ltd.
Time House, Ruislip
Middlesex, England
Tel: 8956-33355 & 8956-35670
Telex: 23272

TAIWAN

General Instrument of Taiwan, Ltd.
233 Pao Chiao Road
Hsin Tien, Taipei, Taiwan
Tel: 9113860

JAPAN

General Instrument International Corp.
Fukide Building, 5th Floor
1-13 Toranomon 4-Chrome
Minato-Ku, Tokyo 105, Japan
Tel: (03) 437-0281 (GIIC)

CHINA

General Instrument Hong Kong Ltd.
Room 1104-1107, Tower B, Mandarin Plaza
14 Science Museum Road
Tsimshatsui East, Kowloon
Hong Kong
Tel: 3-7226577
Telex: 54606 GIHKHX

NAME	ADDRESS	CITY/STATE	TELEPHONE #
Hallmark Electronics	4900 Bradford Drive	Huntsville, AL 35807	(205) 837-8700
Marshall Industries	3313 Memorial Pky. South	Huntsville, AL 35801	(205) 881-9235
Pioneer Electronics	4825 University Square	Huntsville, AL 35805	(205) 837-9300
RM Alabama, Inc.	4702 Governors Dr., SW	Huntsville, AL 35805	(205) 852-1550
Anthem Electronics	17071-1 E. Weber Drive	Tempe, AZ 95281	(602) 244-0900
Arizona Components	2901-A McDowell Road	Phoenix, AZ 85009	(602) 269-5655
Arrow Electronics	2127 W. 5th Place	Tempe, AZ 85281	(602) 968-4800
Bell Industries	1705 W. 4th Street	Tempe, AZ 85281	(602) 966-7800
Hallmark Electronics	4040 East Raymond	Phoenix, AZ 85040	(602) 437-1200
Marshall Industries	835 West 22nd Street	Temp, AZ 85281	(602) 968-6181
Sterling Electronics	3501 East Broadway Rd.	Phoenix, AZ 85040	(602) 268-2121
Wyle Laboratories	17855 N. Black Canyon Fwy	Phoenix, AZ 85023	(602) 249-2232
ACI Electronics	345 Paseo Tesoro	Walnut, CA 91789	(818) 331-0735
All American	2908 Oregon Court G-2	Torrance, CA 90503	(213) 320-0240
Anthem Electronics	174 Component Drive	San Jose, CA 95131	(408) 946-8000
Anthem Electronics	4125 Sorrento Valley Blvd.	San Diego, CA 92121	(619) 279-5200
Anthem Electronics	2991 Dow Avenue	Tustin, CA 92680	(714) 730-8000
Anthem Electronics	20640 Bahama Street	Chatsworth, CA 91311	(818) 700-1000
Arrow Electronics	9511 Ridgehaven Court	San Diego, CA 92123	(619) 565-4800
Arrow Electronics	19748 Dearborne Street	Chatsworth, CA 91311	(213) 701-7500
Arrow Electronics	521 Weddell Drive	Sunnyvale, CA 94086	(408) 745-6600
Arrow Electronics	1808 Tribute Rd. Suite C	Sacramento, CA 95815	(916) 925-7456
Arrow Electronics	2961 Dow Avenue	Tustin, CA 92680	(714) 838-5422
Bell Industries	1161 N. Fair Oaks Avenue	Sunnyvale, CA 94086	(408) 734-8570
Bell Industries	306 E. Alondra Blvd.	Gardena, CA 90247	(213) 515-1800
Bell Industries	12322 Monarch Street	Garden Grove, CA 92641	(714) 220-0681
Bell Industries	1829A De Havilland Drive	Thousand Oaks, CA 91320	(805) 499-6821
Bell Industries	500 Giuseppe Ct. Suite #6	Roseville, CA 95678	(916) 969-3100
Diplomat Electronics	1283 F Mr. View Alviso Rd.	Sunnyvale, CA 94086	(408) 734-1900
Diplomat/Westates	9787 Aero Drive	San Diego, CA 92123	(619) 292-6693
Diplomat/Westates	20151 Bahama St.	Chatsworth, CA 91311	(213) 341-4411
Diplomat/Westates	140 McCormick Avenue	Costa Mesa, CA 92626	(714) 549-8401
Future Electronics	225 Charcot Avenue	San Jose, CA 95131	(408) 945-9100
Hallmark Electronics	2221 E. Rosecrans Avenue	El Segundo, CA 90245	(213) 643-9101
Hallmark Electronics	6341 Auburn Blvd. Suite B	Citrus Heights, CA 95610	(916) 722-8600
Hallmark Electronics	3878 Ruffin Road	San Diego, CA 92123	(619) 268-1201
Hallmark Electronics	110 Ringwood Ct.	San Jose 95131	(408) 946-0900
Hallmark Electronics	8130 Remmet Avenue	Canoga Park, CA 91304	(818) 716-7300
Hallmark Electronics	14831 Franklin Avenue	Tustin, CA 92680	(714) 669-4700
Marshall Industries	8015 Deering Avenue	Canoga Park, CA 91304	(213) 999-5001
Marshall Industries	3039 Kilgore Ave. #140	Rancho Cordova, CA 95670	(916) 635-9700
Marshall Industries	10105 Carroll Canyon Rd.	San Diego, CA 92131	(619) 578-9600
Marshall Industries	788 Palomar Avenue	Sunnyvale, CA 94086	(408) 732-1100
Marshall Industries	17321 Murphy Avenue	Irvine, CA 92714	(714) 660-0951
Marshall Industries	9674 Telstar Avenue	El Monte, CA 91731	(818) 442-7204
Master Distributors, Inc.	1301 Olympic Blvd.	Santa Monica, CA 92807	(213) 452-1336
Pacesetter Electronics	5417 E. La Palma Ave.	Anaheim, CA 92807	(714) 779-5855
Pacesetter Electronics	543 Weddell Drive	Sunnyvale, CA 94086	(408) 734-5470
Pacesetter Electronics	3137 W. Warner Avenue	Santa Ana, CA 92704	(213) 233-5800
Semispecialists of Amer.	1726 Manhattan Bch. Blvd.	Manhattan Beach, CA 90266	(213) 276-0861
Wyle Laboratories	3000 Bowers Avenue	Santa Clara, CA 95051	(408) 727-2500
Wyle Laboratories	1115 Sun Center Drive	Rancho Cordova, CA 95670	(916) 628-5282
Wyle Laboratories	9525 Chesapeake Drive	San Diego, CA 92123	(619) 565-9171
Wyle Laboratories	124 Maryland Street	El Segundo, CA 90245	(213) 322-8100
Wyle Laboratories	17872 Cowan Avenue	Irvine, CA 92714	(714) 863-9953
Wyle Laboratories	18910 Teller Avenue	Irvine, CA 92715	(714) 851-9958
Zeus Components	1130 Hawk Circle	Anaheim, CA 92807	(714) 632-6880
Zeus Components	3350 Scott Blvd., Bdg. 64	Santa Clara, CA 95051	(408) 727-0714
Anthem Electronics	8200 S. Akron Street	Englewood, CO 80112	(303) 790-4500
Arrow Electronics	2121 South Hudson	Denver, CO. 80222	(303) 758-2100
Bell Industries	8155 W. 48th Avenue	Wheatridge, CO 80033	(303) 424-1985
Diplomat Electronics	96 Inverness Dr. E Unit R	Englewood, CO 80112	(303) 740-8300
Future Electronics	9046 Marshall Court	Westminster, CO 80030	(303) 650-0123
Hallmark Electronics	6950 South Tucson Way	Englewood, CO 80112	(303) 694-1662
Marshall Industries	7000 N. Broadway	Denver, CO 80221	(303) 427-1818
Sterling Electronics	7304 S. Alton Way	Englewood, CO 80112	(303) 796-7338
Wyle Laboratories	451 E. 124th Avenue	Thornton, CO 80241	(303) 457-9953

NAME	ADDRESS	CITY/STATE	TELEPHONE #
Almo Electronics	3714 Whitney Avenue	Hamden, CT 06518	(203) 288-6556
Arrow Electronics	12 Beaumont Road	Wallingford, CT 06514	(203) 265-7741
Diplomat Electronics	52 Federal Road	Danbury, CT 06810	(203) 797-9674
Falcon Electronics	5 Higgins Road	Milford, CT 06460	(203) 878-5272
Future Electronics	69 North Street	Danbury, CT 06810	(203) 743-9594
JV Electronics	690 Main Street	East Haven, CT 06512	(203) 469-2321
Marshall Industries	Village Lane, PO Box 200	Wallingford, CT 06492	(203) 265-3822
Pioneer Harvey	112 Main Street	Norwalk, CT 06851	(203) 853-1515
All American Transistor	P.O. Box 380338	Miami, FL 33138	(305) 621-8282
Arrow Electronics	350 Fairway Drive	Deerfield Beach, FL 33441	(305) 429-8200
Arrow Electronics	50 Woodlake Drive, W	Palm Bay, FL 32905	(305) 725-1480
Diplomat Electronics	2120 Calumet Street	Clearwater, FL 33515	(813) 443-4514
Future Electronics	207 Range Road	Clearwater, FL 33575	(813) 441-4771
Graham Electronics	10810 72 St. N Suite 201	Largo, FL 33542	(813) 541-4434
Hallmark Electronics	15301 Roosevelt Blvd.	Clearwater, FL 33520	(813) 530-4543
Hallmark Electronics	7233 Lake Ellenor Drive	Orlando, FL 32809	(305) 855-4020
Hallmark Electronics	3161 S.W. 15th Street	Pompano Beach, FL 33069	(305) 971-9280
Hammond Electronics	1230 W. Central Avenue	Orlando, FL 32805	(305) 849-6060
Hammond Electronics	6600 N.W. 21st Avenue	Ft. Lauderdale, FL 33309	(305) 973-7103
Marshall Industries	4205 34 St., S.W.	Orlando, FL 32805	(305) 841-1878
Pioneer Electronics	674 S. Military Rd.	Deerfield Beach, FL 33441-3024	(305) 428-8877
Pioneer Electronics	221 North Lake Blvd.	Altamonte Sp., FL 32701	(305) 834-9090
Semispecialists of Amer.	359 Whooping Loop	Altamonte Sp., FL 32701	(305) 831-6201
Summit Distributors	1200 Stirling Rd. Bldg. 6	Dania, FL 33004	(305) 920-6253
Arrow Electronics	2979 Pacific Drive	Norcross, GA 30071	(404) 449-8252
Diplomat Electronics	6659 Peachtree Ind. Blvd.	Norcross, GA 30092	(404) 449-4133
Dixie Electronics	1234 Gordon Park Road	Augusta, GA 30901	(404) 722-2055
Hallmark Electronics	6410 Atlantic Blvd.	Norcross, GA 30071	(404) 447-8000
Marshall Electronics	43648 Shackelford Road	Norcross, GA 30093	(404) 923-5750
Pioneer Electronics	5835B Peachtree Corners E	Norcross, GA 30092	(404) 448-1711
Advent Electronics	7110 N. Lyndon Street	Rosemont, IL 40016	(312) 298-4210
Arrow Electronics	495 Lunt Avenue	Schaumburg, IL 60195	(312) 397-3440
Bell Industries	3422 W. Touhy Avenue	Skokie, IL 60645	(312) 982-9210
Diplomat Electronics	1071 Judson Street	Bensenville, IL 60106	(312) 595-1000
Hallmark Electronics	1177 Industrial Drive	Bensenville, IL 60106	(312) 860-3800
Marshall Industries	1261 Wiley Road Unit F	Schaumburg, IL 60195	(312) 490-0155
Newark Electronics	500 N. Polaski Road	Chicago, IL 60624	(312) 638-4411
Pioneer/Chicago	1551 Carmen Drive	Elk Grove Vlg, IL 60007	(312) 437-9680
RM Illinois, Inc.	180 Crossen	Elk Grove Vlg., IL 70007	(312) 364-6622
Semiconductor Specialists	195 Spangler Avenue	Elmhurst, IL 60126	(312) 279-0169
Advent Electronics	8446 Moller Road	Indianapolis, IN 46268	(317) 872-4910
Arrow Electronics	2781 Rand Road	Indianapolis, IN 46241	(317) 243-3953
Ft. Wayne Electronics	3606 E. Maumec Avenue	Ft. Wayne, IN 46803	(219) 423-3422
Graham Electronics	3433 West Boulevard	Ft. Wayne, IN 46803	(219) 423-3422
Pioneer/Indiana	6408 Castleplace Drive	Indianapolis, IN 46250	(317) 849-7300
RM Indiana, Inc.	7031 Corporate Circle Dr.	Indianapolis, IN 46278	(317) 291-7110
Advent Electronics	682 58 Ave., Court SW	Cedar Rapids, IA 52401	(319) 363-0221
Arrow Electronics	375 Collins Avenue N.E.	Cedar Rapids, IA 52402	(319) 395-7230
Deeco, Inc.	2500 16 Avenue SW	Cedar Rapids, IA 52404	(319) 365-7551
Hallmark Electronics	10815 Lakeview Drive	Lenexa, KS 66219	(913) 888-4747
All American Transistor	1136 Taft Street	Rockville, MD 20850	(301) 251-1205
Almo Electronics	8502 Dakota Drive	Gaithersburg, MD 20877	(301) 670-0090
Arrow Electronics	8300 Guilford Rd. Suite H	Columbia, MD 21046	(301) 247-5200
Diplomat Electronics	9150 Rumsey Road	Columbia, MD 21045	(301) 995-1226
Future Electronics	8980 Route 108	Columbia, MD 21045	(301) 621-4394
Hallmark Electronics	10240 Old Columbia	Columbia, MD 21046	(202) 621-1685
Marshall Industries	16760 Oakmont Avenue	Gaithersburg, MD 20760	(301) 840-9450
Pioneer/Washington	9100 Gaither Road	Gaithersburg, MD 20760	(301) 921-0660
A.W. Mayer Company	34 Linnell Circle	Billerica, MA 01821	(617) 229-2255
ACI Electronics	124 Cummings Park	Woburn, MA 01888	(617) 935-7230
Arrow Electronics	Arrow Drive	Woburn, MA 01801	(617) 933-8130
Diplomat Electronics	28 Cummings Park	Woburn, MA 01801	(717) 935-6611
Falcon Electronics	100 Pennsylvania Avenue	Framingham, MA 01701	(617) 626-2128
Future Electronics	133 Flanders Road	Westboro, MA 01581	(617) 366-2400
Green-Shaw Company	701 Bridge Street	Newton, MA 02195	(617) 969-8900
Marshall Industries	One Wilshire Road	Burlington, MA 01803	(617) 272-8200
Pioneer Harvey	44 Hartwell	Lexington, MA 02173	(617) 861-9200

NAME	ADDRESS	CITY/STATE	TELEPHONE #
Sager Electronics	60 Research Road	Hingham, MA 02043	(617) 749-6700
Sterling Electronics	411 Waverly Oaks Road	Waltham, MA 02154	(617) 894-6200
Zeus Components	429 Marrett Road	Lexington, MA 02173	(617) 863-8800
Advent Electronics	24713 Crestview Court	Farmington His, MI 48018	(313) 477-1650
Arrow Electronics	3810 Varsity Drive	Ann Arbor, MI 48104	(313) 971-8220
Arrow Electronics	3510 Roger B. Chaffee Dr.	Grand Rapids, MI 49508	(616) 243-0912
Pioneer/Michigan	13485 Stamford	Livonia, MI 48150	(313) 437-9680
RM Michigan, Inc.	4310 Roger B. Chaffee Dr.	Grand Rapids, MI 49508	(616) 531-9300
Arrow Electronics	5230 W. 73 St.	Edina, MN 55435	(612) 830-1800
Hallmark Electronics	7838 12 Avenue South	Bloomington, MN 55420	(612) 854-3223
Industrial Components	5229 Edina Boulevard	Minneapolis, MN 55435	(612) 831-2666
Joel Company	612-11th Avenue South	Minneapolis, MN 55343	(612) 935-6202
Marshall Industries	13810 24 Ave. N. Ste. 460	Plymouth, MN 55441	(612) 559-2211
Pioneer/Twin Cities	10203 Bren Road East	Minnetonka, MN 55343	(612) 935-5444
Semiconductor Specialists	1500 E. 79th Street #106	Minneapolis, MN 55420	(612) 854-8841
Arrow Electronics	2380 Schuetz	St. Louis, MO 63141	(314) 567-6888
Hallmark Electronics	13750 Shoreline Drive	Earth City, MO 63045	(314) 291-5350
Semiconductor Specialists	3805 N. Oak Traffic Way	Kansas City, MO 64116	(816) 452-3900
Scott Electronics	4040 Adams Street	Lincoln, NE 68504	(402) 466-8221
Arrow Electronics	1 Perimeter Drive	Manchester, NH 03103	(603) 668-6968
Arrow Electronics	6000 Lincoln Drive East	Marlton, NJ 08053	(609) 596-8000
Arrow Electronics	2 Industrial Road	Fairfield, NJ 07006	(201) 575-5300
Diplomat/1PC Corporation	490 S. Riverview Drive	Totowa, NJ 07512	(201) 785-1830
General Radio	6000 Pennsylvania Street	Camden, NJ 08012	(609) 964-8560
Hallmark Electronics	107 Fairfield Road	Fairfield, NJ 07006	(201) 575-4415
Hallmark Electronics	1000 Midlantic Drive	Mount Laurel, NJ 08054	(201) 575-3510
Marshall Industries	101 Fairfield Road	Fairfield, NJ 07006	(201) 340-1900
Marshall Industries	102 Gaither Drive Unit 2	Mt. Laurel, NJ 08054	(609) 234-9100
Pioneer Harvey	45 Route 46	Pinebrook, NJ 07058	(201) 575-3510
Solid State	46 Farrand Street	Blomfield, NJ 07003	(201) 429-8700
Sterling Electronics	7744 Pfeiffer Blvd.	Perth Amboy, NJ 08861	(201) 442-8000
Arrow Electronics	2360 Alamo Avenue, S.E.	Albuquerque, NM 87106	(505) 243-4566
Bell Industries	11728 Linn N.E.	Albuquerque, NM 87123	(505) 292-2700
Sterling Electronics	3540 D Pan American Fwy.	Albuquerque, NM 87107	(505) 884-1900
ADD Electronics	7 Adler Drive	East Syracuse, NY 13057	(315) 437-0300
Arrow Electronics	7705 Maltage Drive	Liverpool, NY 13088	(315) 652-1000
Arrow Electronics	3000 S. Winton Road	Rochester, NY 14623	(716) 427-0300
Diplomat Electronics	4610 Wetzal Road	Liverpool, NY 13088	(315) 652-5000
Future Electronics	7453 Morgan Rd.	Liverpool, NY 13088	(315) 451-2371
Intercept Electronics	Robinhill Corp. Pk. Rt.22	Patterson, NY 12563	(914) 878-6630
Marshall Industries	1260 Scottsville Road	Rochester, NY 14624	(716) 235-7620
Marshall Industries	129 Brown St.	Johnson City, NY 13790	(607) 754-1570
Pioneer Harvey	P.O. Box 1208/Vesta Pky.	Binghamton, NY 18211	(607) 748-8211
Pioneer Harvey	840 Fairport Park	Fairport, NY 14450	(716) 381-7070
Rome Electronics	216 E. Erie Blvd.	Rome, NY 13440	(315) 337-5400
Summit Distributors	916 Main Street	Buffalo, NY 14202	(716) 884-3450
ACI Electronics	200 Newton Road	Plainview, NY 11803	(516) 293-6630
All American Elect. Corp.	90 13th Avenue	Ronkonkoma, NY 11779	(516) 981-3935
Arrow Electronics	25 Hub Drive	Melville, NY 11742	(516) 694-6800
Arrow Electronics	20 Oser Avenue	Happauge, NY 11787	(516) 231-1000
Diplomat Electronics	110 Marcus Drive	Melville, NY 11747	(516) 454-6400
Hallmark Electronics	1 Comac Loop	Ronkonkoma, NY 11779	(516) 737-0600
Jaco Electronics Inc.	145 Oser Avenue	Happauge, NY 11787	(516) 273-5500
Marshall Industries	275 Oser Avenue	Happauge, NY 11787	(516) 273-2424
Pioneer Harvey	60 Crossways Park West	Woodbury, NY 11797	(516) 921-8700
Semispecialists of Amer.	564 Smith Street	Farmingdale, NY 11735	(516) 293-2710
Vantage	356 Veteran's Highway	Commack, NY 11725	(516) 543-2000
Zeus Components	100 Midland Avenue	Port Chester, NY 10573	(914) 937-7400

NAME	ADDRESS	CITY/STATE	TELEPHONE #
Arrow Electronics	938 Burke Street	Winston-Salem, NC 27107	(919) 725-8711
Arrow Electronics	5240 Green's Dairy Road	Raleigh, NC 27601	(919) 876-3132
Dixie Electronics	5020 F. Departe Dr.	Raleigh, NC 27604	(919) 872-0808
Dixie Electronics	2220 S. Tyrone St.	Charlotte, NC 28234	(704) 377-5413
Dixie Electronics	123 New Leicester Hwy.	Ashville, NC 28806	(704) 252-8000
Dixie Electronics	1021 R. Burke Street	Winston-Salem, NC 27102	(919) 724-5961
Hallmark Electronics	5237 North Boulevard	Raleigh, NC 27604	(919) 872-0712
Hammond Electronics	2923 Pacific Avenue	Greensboro, NC 27406	(919) 275-6391
Pioneer Electronics	9801-A Southern Pine Blvd.	Charlotte, NC 28210	(704) 527-8188
Arrow Electronics	7620 McEwen Road	Centerville, OH 45459	(513) 435-5563
Arrow Electronics	6238 Cockran Road	Solon, OH 44139	(216) 248-3990
Bell Industries	118 W. Park Road	Dayton, OH 45459	(513) 435-8660
Graham Electronics	239 Northland Blvd.	Cincinnati, OH 45246	(513) 772-1661
Hallmark Electronics	400 E. Wilson Bridge Rd.	Worthington, OH 43085	(614) 891-4555
Hallmark Electronics	5821 Harper Road	Solon, OH 44139	(216) 349-4632
Marshall Industries	5905 B. Harper Road	Solon, OH 44139	(216) 248-1788
Marshall Industries	6212 Executive Blvd.	Dayton, OH 45424	(513) 236-8088
Micro-Mil, Div. of Bell	118 Westport Road	Dayton, OH 45459	(513) 434-8231
Pioneer/Cleveland	4800 E. 131st Street	Cleveland, OH 44105	(216) 587-3600
Pioneer/Dayton	4433 Interpoint Blvd.	Dayton, OH 45404	(513) 9900
Stotts Friedman Company	2600 E. River Road	Dayton, OH 45439	(513) 298-5555
Hallmark Electronics	5460 S. 103 Avenue	Tulsa, OK 74145	(918) 835-8458
Arrow Electronics	10260 S.W. Nimbus Bldg. M	Portland, OR 97223	(503) 684-1690
Bell Industries	6024 S.W. Jean Road	Lake Oswego, OR 97034	(503) 241-4115
Marshall Industries	8230 S.W. Nimbus Avenue	Beaverton, OR 97005	(503) 644-5050
Wyle Laboratories	5289 N.E. Elam Young Pkwy.	Hillsboro, OR 97123	(503) 640-6000
Advacom Inc.	5620 West Road	McDean, PA 16426	(814) 476-7774
Almo Electronics	9815 Roosevelt Blvd.	Philadelphia, PA 19114	(215) 698-4021
Almo Electronics	4550 McKnight Road	Pittsburgh, PA 15247	(412) 931-5990
Arrow Electronics	650 Seco Road	Monroeville, PA 15146	(412) 856-7000
Arrow Electronics	Pleasant Valley Avenue	Moorestown, NJ 08057	(609) 235-1900
General Radio	600 Pennsylvania Street	Camden, NJ 08102	(609) 964-8560
Hallmark Electronics	2091 Springdale Road	Cherry Hill, NJ 08003	(215) 335-7300
Marshall Industries	102 Gaither Dr., Unit 2	Mt. Laurel, PA 08054	(215) 627-1920
Pioneer Electronics	261 Gibraltar Road	Horsham, PA 19044	(215) 674-4000
RM Electronics	110 Gibraltar Road	Horsham, PA 19044	(215) 674-1181
Semiconductor Specialists	1000 RIDC Plaza Suite 207	Pittsburgh, PA 15238	(412) 963-7241
Shap Electronics	10071 Sandmeyer Lane	Philadelphia, PA 19116	(215) 969-3300
Pioneer/Pittsburgh	259 Kappa Drive	Pittsburgh, PA 15238	(412) 782-2300
Dixie Electronics	P.O. Box 408	Columbia, SC 29202	(803) 779-5332
Dixie Electronics	531 E. Palmetto Street	Florence, SC 29510	(803) 669-8201
Hammond Electronics	1035 Lowndes Hill Road	Greenville, SC 29602	(803) 233-4121
Dixie Electronics	6639 Clinton Highway	Knoxville, TN 37912	(615) 938-4131
Dixie Electronics	Suncrest Drive, Box 8215	Gray, TN 27615	(615) 477-3838
Hallmark Electronics	12211 Technology Blvd.	Austin, TX 78757	(512) 258-8848
Pioneer/Austin	9901 Burnet Road	Austin, TX 78758	(512) 835-4000
Pioneer/Dallas	13710 Omega Drive	Dallas, TX 75240	(214) 386-7300
Pioneer/Houston	5853 Point West Drive	Houston, TX 77036	(713) 988-5555
Arrow Electronics	3220 Commander Drive	Carrollton, TX 75006-2507	(214) 386-7500
Arrow Electronics	10125 Metropolitan Drive	Austin, TX 78757	(512) 835-4180
Hallmark Electronics	8000 West Geln	Houston, TX 77061	(713) 781-6100
Hallmark Electronics	10375 Rockwood Road	Dallas, TX 75238	(214) 343-5000
Jaco Electronics	1209 Glenville Drive	Richardson, TX 75080	(214) 235-9575
Marshall Industries	3698 Westchase Drive	Houston, TX 77042	(713) 789-9300
Marshall Industries	14205 Proton Road	Dallas, TX 75243	(214) 233-5200
R.M. Electronics	1801 Royal Lane Suite 800	Dallas, TX 75229	(214) 869-2080
Sterling Electronics	2335-A Kramer Lane	Austin, TX 78758	(512) 836-1341
Sterling Electronics	4201 Southwest Freeway	Houston, TX 77027	(713) 627-9800
Sterling Electronics	11090 Stemmons Freeway	Dallas, TX 75229	(214) 243-1600

NAME	ADDRESS	CITY/STATE	TELEPHONE #
Arrow Electronics	1515 W. 2200 So. Drive	Salt Lake City, UT 84119	(801) 972-0404
Bell Industries	3639 West 2150 South	Salt Lake City, UT 84120	(801) 972-6969
Diplomat Electronics	3007 S.W. Temple	Salt Lake City, UT 84115	(801) 486-4134
Future Electronics	2250 South Redwood Road	SALT Lake City, UT 84119	(801) 972-8489
Wyle Laboratories	1959 South 4130 West	Salt Lake City, UT 84104	(801) 974-9953
Semispecialists of Amer.	118 Spruce Street	Rutland, VT 05701	(802) 775-7126
Sterling Electronics	4325 November Avenue	Richmond, VA 23231	(804) 226-2190
Arrow Electronics	14320 N.E. 21st Street	Bellevue, WA 98005	(206) 643-4800
Bell Industries	1900 132nd Ave., N.E.	Bellevue, WA 98005	(206) 747-1515
Future Electronics	4-13107 Northrup Way	Bellevue, WA 98005	(206) 881-8199
Marshall Industries	14102 N.E. 21st Street	Bellevue, WA 98007	(206) 575-3120
Wyl Laboratories	1750 132nd Ave., N.E.	Bellevue, WA 98005	(206) 453-8300
Arrow Electronics	434 W. Rawson	Oak Creek, WI 53154	(414) 764-6600
Bell Industries	913 W. Mound Drive	Waukesha, WI 53186	(414) 547-8879
Hallmark Electronics	9657 S. 20th Street	Oak Creek, WI 53154	(414) 761-3000
RM Electronics	2626 S. 162 Street	New Berlin, WI 53151	(414) 784-4420
Taylor Electronics	1000 W. Donges Bay Road	Mequon, WI 53092	(414) 241-4321
Future Electronics	237 Hymus Blvd	Pnt. Clare, Que, CN H9R5C7	(514) 694-7710
Electrosonic Inc.	1100 Gordon Baker Road	Willowdale, Ontario	(416) 494-1666
Future Electronics	1050 Baxter Road	Ottawa, ONT K2C 3P2	(613) 8313
Future Electronics	82 St. Regis Crescent No.	Downsview, ONT M3J 123	(416) 638-4771
R-A-E Electronics	500 Norfinch Drive	Downsview, ONT M2N1Y4	(416) 736-1588
Future Electronics	3070 Kingway	Vancouver, BC V5R 5J7	(604) 438-5545
R-A-E Industrial Elect.	3455 Gardener Court	Burnaby, VCR VSG 4J7	(604) 291-8866

NOTES

NOTES

NOTES

NOTES

NOTES

NOTES

GENERAL INSTRUMENT CORPORATION

Power Semiconductor Division Headquarters : 600 West John Street, CS620, Hicksville, N.Y. 11802-1620, (516) 933-3333 • TWX: 310-376-8690

North Eastern Regional Sales Office 120 Andrews Road, Hicksville, NY 11802, (516) 933-3200 • TWX: 310-376-8690

South Eastern Regional Sales Office 3030 Holcomb Bridge Road, Suite F, Norcross, GA 30071, (404) 446-1265 • TWX: 510-101-3222

Central Regional Sales Office 2355 S. Arlington Hts. Road, Arlington Hts., IL 60005, (312) 364-5880 • TWX: 910-222-0431

Western Regional Sales Office 21601 Vanowen Street, Suite 205, Canoga Park, CA 91303, (818) 992-0982 • TWX: 910-322-1980

INTERNATIONAL SALES OFFICE

Germany, France, Austria and Switzerland General Instrument Deutschland GmbH, Freischuetzstr 96, 8000 Munchen 81 Tel (089) 956001 • Telex 524523

Italy G.I. Italia S.R.L., Via Quintiliano 27, 20138 Milano, Italy, Tel (02) 552258, 504605, 5062584 • Telex 314233

United Kingdom General Instrument (UK) Ltd., Time House, Ruislip, Middlesex, England, Tel 8956-33355 & 8956-35670 • Telex 23272

Taiwan General Instrument of Taiwan, Ltd., 233 Pao Chiao Road, Hsin Tien, Taiwan, Tel 9113860

Japan General Instrument International Corp., Fukide Building, 5th Floor, 1-13 Toranomon 4-Chrome, Minato-Ku, Tokyo 105, Japan, Tel (03) 437-0281 (GIIC)

China General Instrument Hong Kong Ltd., Room 1104-1107, Tower B, Mandarin Plaza, 14 Science Museum Road, Tsimshatsui East, Kowloon, Hong Kong, Tel: 3-7226577 • Telex: 54606 GIHRHX