

NIKO-SEM P-Channel Logic Level Enhancement Mode P1403EVG

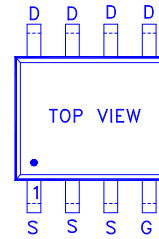
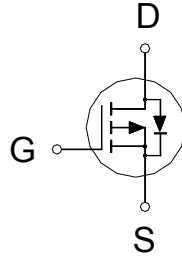
Field Effect Transistor

SOP-8

Halogen-Free & Lead-Free

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30	14m Ω	-11



4 :GATE
5,6,7,8 :DRAIN
1,2,3 :SOURCE

100% UIS tested

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 25	V
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	-11	A
	$T_A = 70^\circ\text{C}$		-9	
Pulsed Drain Current ¹		I_{DM}	-50	
Avalanche Current		I_{AS}	-43	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	90	mJ
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	2.5	W
	$T_A = 70^\circ\text{C}$		1.6	
Operating Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		25	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		50	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.7	-3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ }^{\circ}C$			-10	

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Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -4.5V, I _D = -9A		14	22	mΩ
		V _{GS} = -10V, I _D = -12A		9	14	
Forward Transconductance ¹	g _{fs}	V _{DS} = -10V, I _D = -12A		28		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -15V, f = 1MHz		2510		pF
Output Capacitance	C _{oss}			449		
Reverse Transfer Capacitance	C _{rss}			349		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		7.3		Ω
Total Gate Charge ²	Q _{g(VGS=10V)}	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = -10V, I _D = -12A		48		nC
	Q _{g(VGS=4.5V)}			26		
Gate-Source Charge ²	Q _{gs}			7		
Gate-Drain Charge ²	Q _{gd}			9		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = -15V, I _D ≅ -1A, V _{GS} = -10V, R _{GS} = 6Ω		12		nS
Rise Time ²	t _r			16		
Turn-Off Delay Time ²	t _{d(off)}			50		
Fall Time ²	t _f			100		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _A = 25 °C)						
Continuous Current	I _S				-2.1	A
Forward Voltage ¹	V _{SD}	I _F = I _S , V _{GS} = 0V			-1.2	V

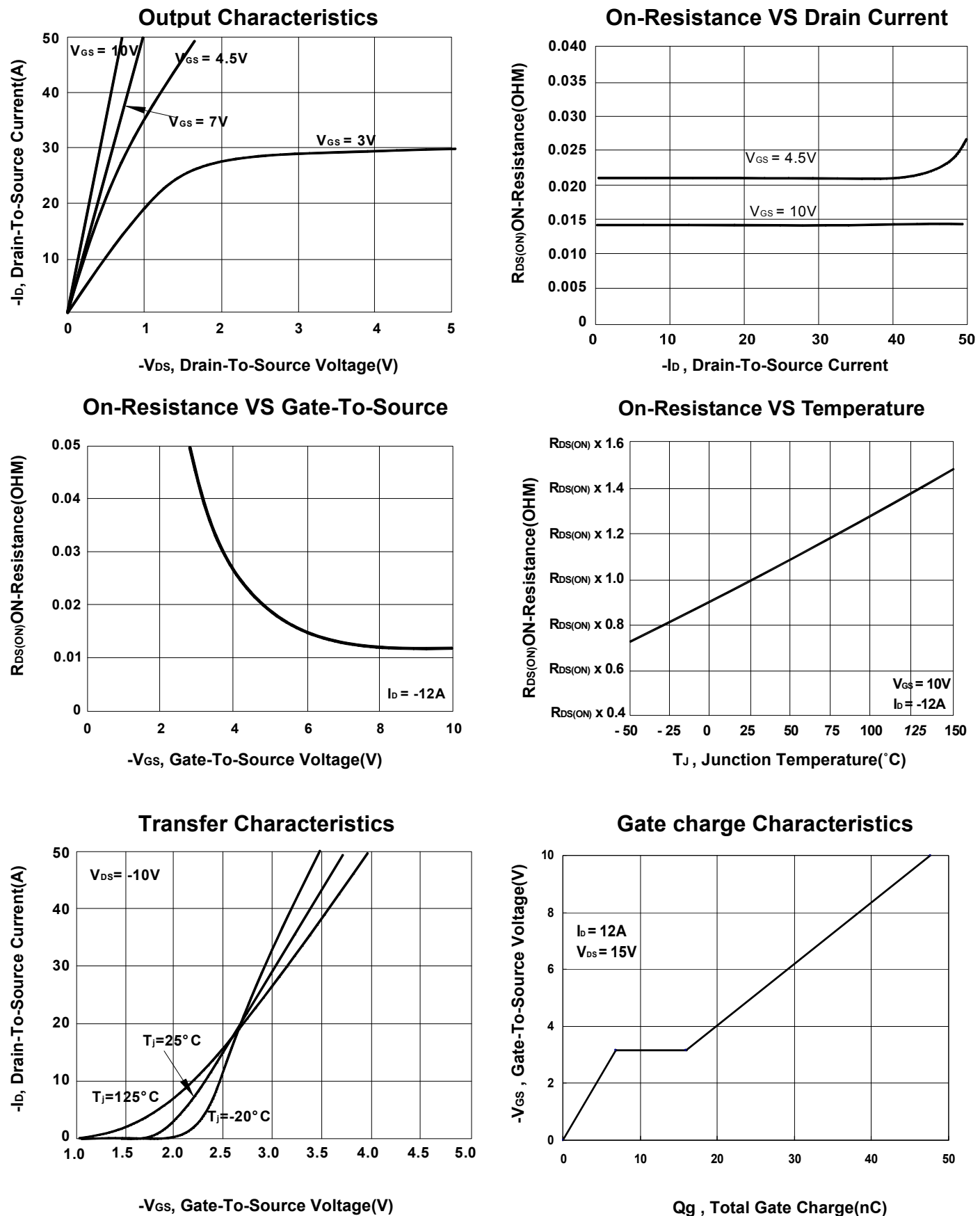
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

REMARK: THE PRODUCT MARKED WITH "P1403EVG", DATE CODE or LOT #

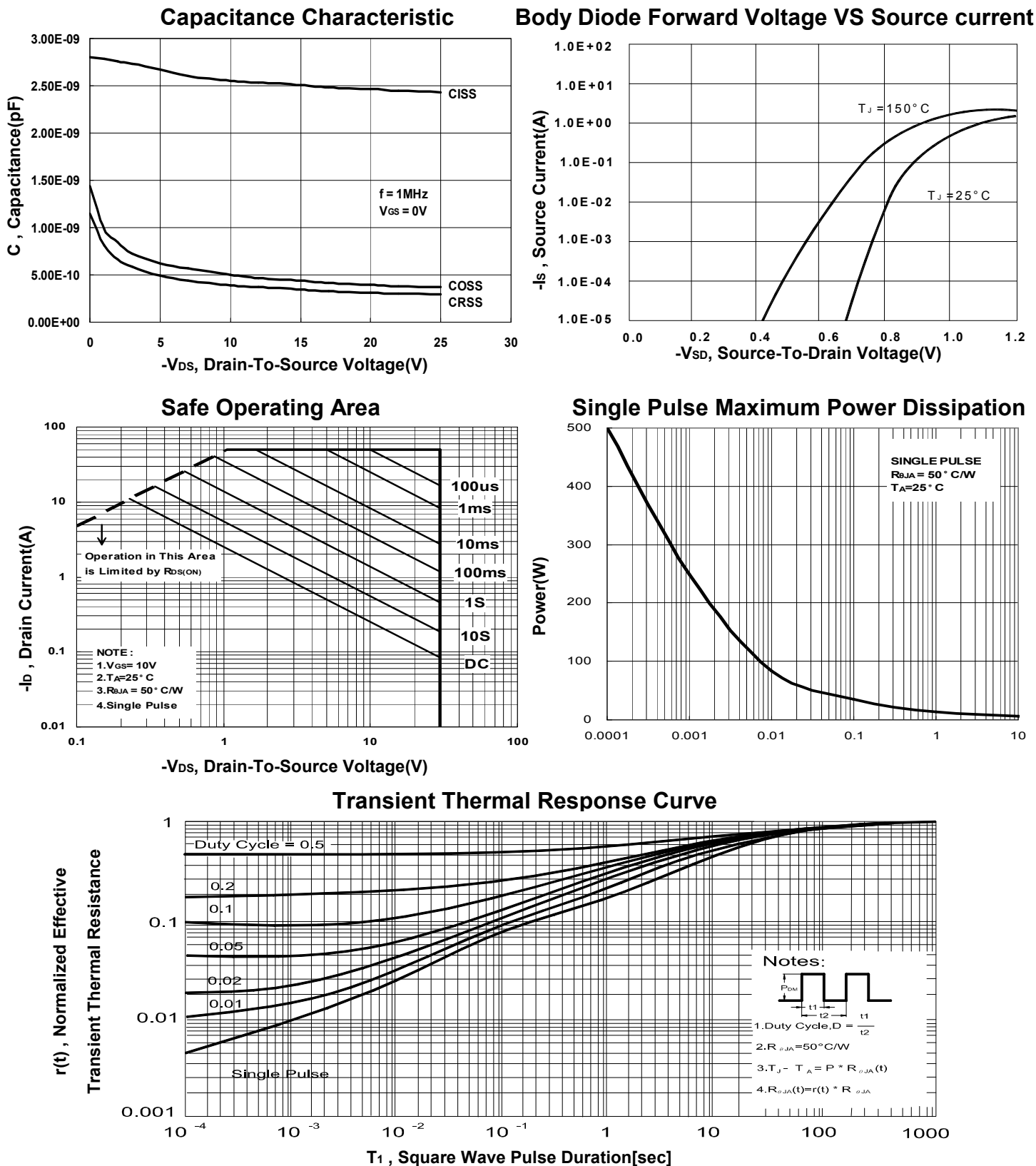
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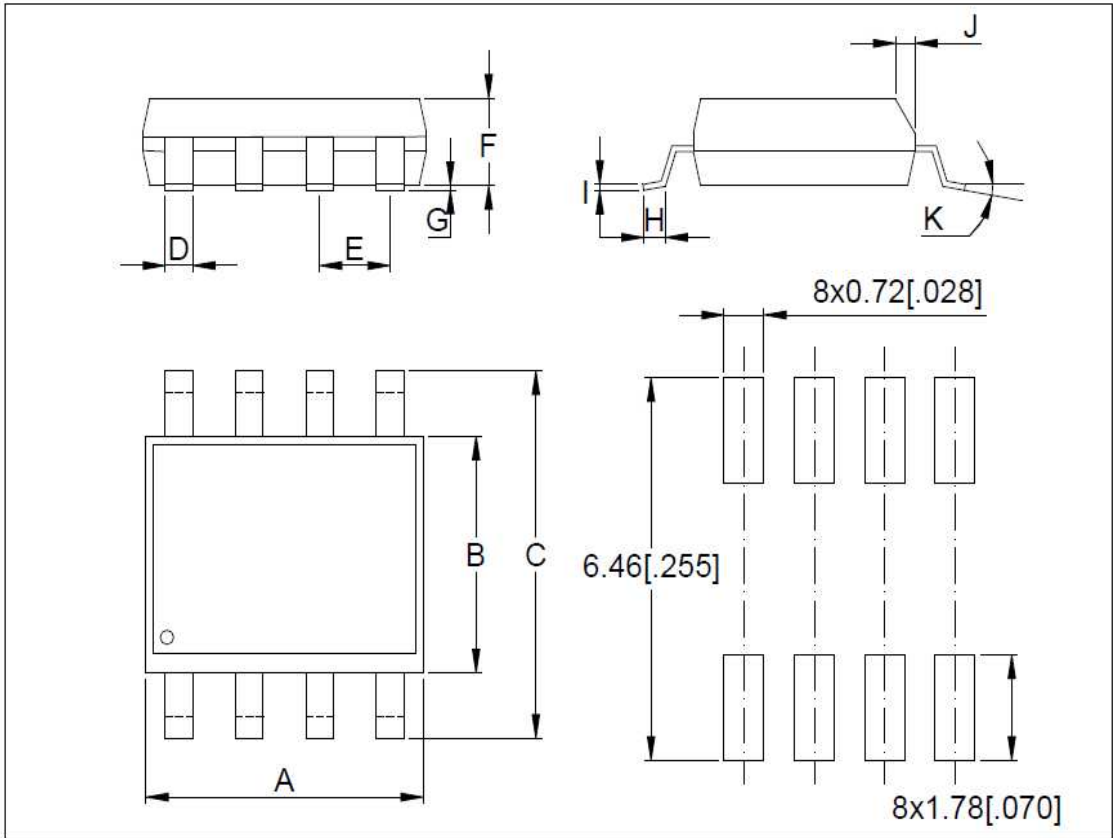
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SOP-8 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.70	4.90	5.10	H	0.40	0.715	0.83
B	3.70	3.90	4.10	I	0.19	0.22	0.26
C	5.80	6.00	6.20	J	0.25	0.375	0.5
D	0.33	0.445	0.51	K	0°	4°	8°
E		1.27		L			
F	1.20	1.375	1.62	M			
G	0.08	0.175	0.28	N			



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