

Coaxial I&Q Demodulator

50Ω

66 to 73 MHz

ZFMIQ-70D

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO/RF Power	50mW
I&Q Current	40mA

Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

LO (carrier)	1
RF (signal)	3
I (0°)(ref.)	S
Q (90°)*	2

*Q= I+90° for LO>RF

Q= I-90° for LO<RF

Features

- rugged, shielded case
- excellent 3rd and 5th order harmonic suppression
- good phase and amplitude unbalance

Applications

- radar and communication systems



Generic photo used for illustration purposes only

CASE STYLE: J17

Connectors	Model
SMA	ZFMIQ-70D
BRACKET (OPTION "B")	

Demodulator Electrical Specifications

MODEL NO.	FREQUENCY (MHz)				CONVERSION LOSS (dB)			AMPLITUDE UNBALANCE (dB)		PHASE UNBALANCE (Deg.)		HARMONIC SUPPRESSION (dBc)			
	RF (SIGNAL)	LO (CARRIER)	I&Q							with reference to 90°		3XI/Q	5XI/Q		
	fL	fU	Min.	Max.	$\bar{x}$	σ	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ	Min.
ZFMIQ-70D	66	73	DC	2	6.2	0.10	7.0	0.15	0.5	0.7	3.0	56	45	58	55

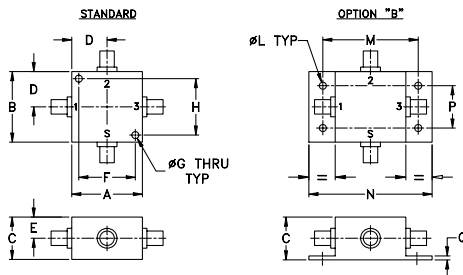
Notes:

1. Operating LO Power: 10±0.5 dBm
2. 1 dB Compression at +4 dBm RF input
3. DC offset 1mV typ.
4. Conversion Loss=RF power, dBm - (I+Q) power, dBm

Typical Performance Data

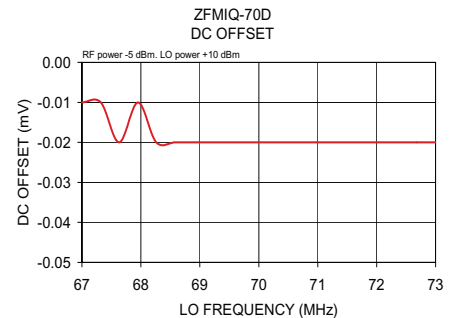
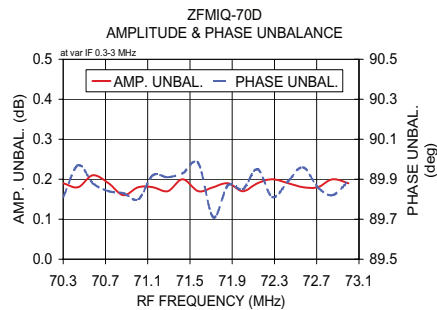
Frequency (MHz)		Conversion Loss (dB)	Amplitude Unbalance (dB)	Phase (I&Q) (deg.)	Frequency (MHz)		DC Offset (mV)
LO=70MHz	RF				LO	RF	
70.30	0.30	6.10	0.19	89.81	67.00	67.10	-0.01
70.44	0.44	6.08	0.18	89.97	67.32	67.42	-0.01
70.58	0.58	6.13	0.21	89.88	67.63	67.73	-0.02
70.73	0.73	6.12	0.19	89.84	67.95	68.05	-0.01
70.87	0.87	6.13	0.16	89.83	68.26	68.36	-0.02
71.01	1.01	6.07	0.18	89.80	68.58	68.68	-0.02
71.15	1.15	6.10	0.18	89.92	68.89	68.99	-0.02
71.29	1.29	6.10	0.17	89.91	69.21	69.31	-0.02
71.43	1.43	6.13	0.20	89.93	69.53	69.63	-0.02
71.58	1.58	6.12	0.17	89.98	69.84	69.94	-0.02
71.72	1.72	6.10	0.18	89.71	70.16	70.26	-0.02
71.86	1.86	6.10	0.19	89.87	70.47	70.57	-0.02
72.00	2.00	6.09	0.17	89.85	70.79	70.89	-0.02
72.14	2.14	6.10	0.19	89.95	71.11	71.21	-0.02
72.28	2.28	6.11	0.20	89.81	71.42	71.52	-0.02
72.43	2.43	6.10	0.19	89.89	71.74	71.84	-0.02
72.57	2.57	6.11	0.18	89.96	72.05	72.15	-0.02
72.71	2.71	6.11	0.18	89.86	72.37	72.47	-0.02
72.85	2.85	6.10	0.20	89.82	72.68	72.78	-0.02
73.00	3.00	6.11	0.19	89.89	73.00	73.10	-0.02

Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.000	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
-	-	.125	1.688	2.18	.75	.07	grams
-	-	3.18	42.88	55.37	19.05	1.78	75.0



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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