

Plug-In

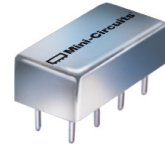
NON-CATALOG

I&Q Modulator

MIQA-70M+

50Ω

66 to 73 MHz



CASE STYLE: A06

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO Power	50mW
I&Q Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

LO (carrier)	1
RF (signal)	8
I (0°)(ref.)	7
Q (90°)*	4
50Ω TERM EXTERNAL	2
GROUND	3,5,6
CASE GROUND	3,5,6

*Q= I -90° for lower sideband suppression

Features

- hermetically sealed metal case
- excellent 3rd and 5th order harmonic
- good carrier and sideband rejections

Applications

- radar
- communication system
- military, hi-rel application

Modulator Electrical Specifications

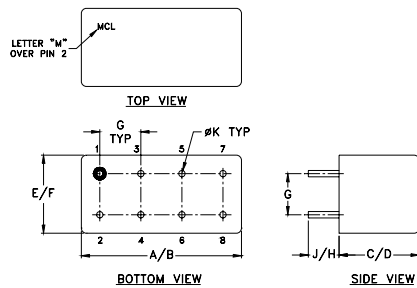
FREQUENCY (MHz)				CONVERSION LOSS (dB)			CARRIER REJECTION (-dBc)		SIDE BAND REJECTION (-dBc)		HARMONIC SUPPRESSION (-dBc)			
RF (SIGNAL/ LO (CARRIER))		I&Q		\bar{x}		Max.	Typ. Min.		Typ. Min.		3XI/Q		5XI/Q	
fL	fU	Min.	Max.	\bar{x}	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
66	73	DC	5	6.2	0.10	7.0	38	30	38	30	48	45	58	55

Operating LO power: 10±1dBm
 1dB Compression: 0dBm typical
 Conversion Loss: (I + Q) power, dBm - RF power, dBm
 Carrier and sideband rejections measured at -5dBm I/Q power.

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Outline Drawing

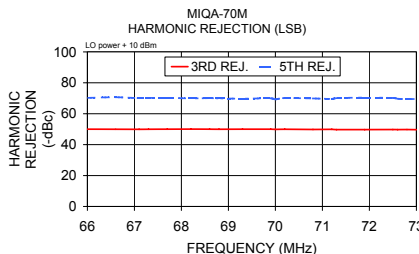
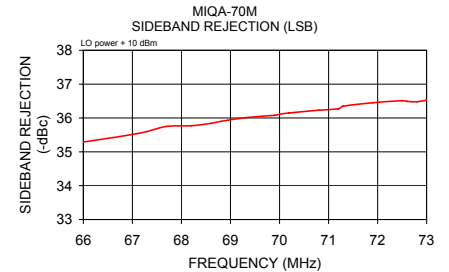
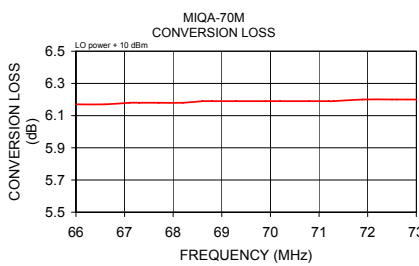


Outline Dimensions (inch/mm)

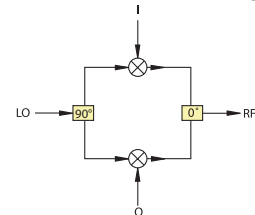
A	B	C	D	E	F
.770	.800	.285	.310	.370	.400
19.56	20.32	7.24	7.87	9.40	10.16
G	H	J	K	wt	
.200	.20	.14	.031	grams	
5.08	5.08	3.56	0.79	5.2	

Typical Performance Data

Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection (x)		Carrier Rejection (x)		3rd Harmonic Suppression (x)		5th. Harmonic Suppression (x)		DC Offset (mV)
	\bar{x} (dB)	σ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	
66.00	6.17	0.05	35.29	37.71	52.10	52.12	49.98	58.32	70.26	63.44	0.16
66.60	6.17	0.05	35.42	37.86	52.24	52.25	49.94	58.19	70.66	63.23	0.17
67.10	6.18	0.05	35.54	37.94	52.08	52.10	49.92	58.28	70.10	63.32	0.16
67.30	6.18	0.05	35.60	38.01	52.04	52.18	49.96	58.56	70.22	63.16	0.16
67.70	6.18	0.04	35.75	38.10	51.90	52.23	50.00	58.39	70.26	63.53	0.16
68.20	6.18	0.04	35.77	38.34	52.02	52.06	50.04	58.58	69.94	63.42	0.17
68.60	6.19	0.05	35.84	38.47	51.96	51.92	49.98	58.56	70.08	63.30	0.17
68.80	6.19	0.04	35.90	38.56	51.94	51.98	49.94	58.40	69.94	63.38	0.16
69.30	6.19	0.04	36.01	38.78	51.86	51.92	50.02	58.34	69.74	63.20	0.17
69.90	6.19	0.05	36.08	38.87	51.70	51.83	50.00	58.31	69.98	63.15	0.17
70.00	6.19	0.05	36.11	38.94	51.84	52.10	49.86	58.20	69.30	63.12	0.17
70.20	6.19	0.04	36.15	38.88	51.74	51.75	49.96	58.31	70.10	63.29	0.17
70.80	6.19	0.04	36.23	38.93	51.83	51.91	49.83	58.19	69.89	63.33	0.17
71.20	6.19	0.05	36.27	39.08	51.72	51.81	49.92	58.05	69.58	63.05	0.17
71.30	6.19	0.05	36.35	39.13	51.61	51.85	49.71	58.23	70.09	63.13	0.17
71.90	6.20	0.04	36.45	39.21	51.62	51.79	49.72	57.95	70.46	63.29	0.17
72.50	6.20	0.04	36.51	39.21	51.59	51.58	49.75	57.72	70.21	62.82	0.17
72.60	6.20	0.04	36.49	39.35	51.45	51.67	49.71	57.71	69.69	62.77	0.17
72.80	6.20	0.04	36.48	39.38	51.33	51.56	49.75	57.66	69.45	62.84	0.17
73.00	6.20	0.04	36.53	39.39	51.37	51.38	49.67	57.66	69.55	62.98	0.17



I&Q modulation block diagram



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.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

