

Plug-In I&Q Modulator

50Ω

95 to 105 MHz

MIQA-100M+
MIQA-100M



CASE STYLE: A06
PRICE: \$52.20 ea. QTY (1-9)

+RoHS Compliant

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

Maximum Ratings

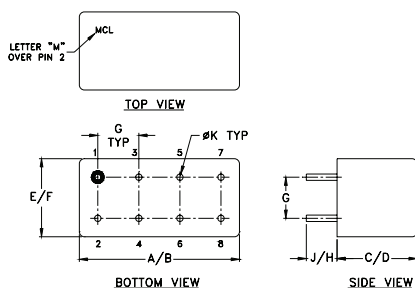
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO Power	50mW
I&Q Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

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

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	

Features

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

Applications

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

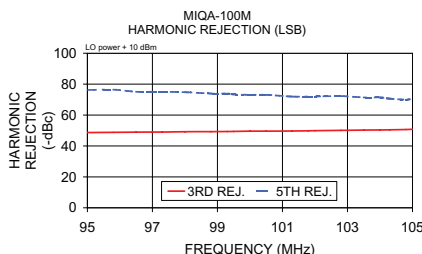
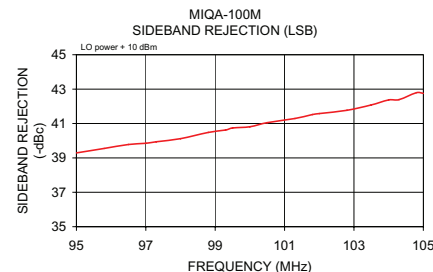
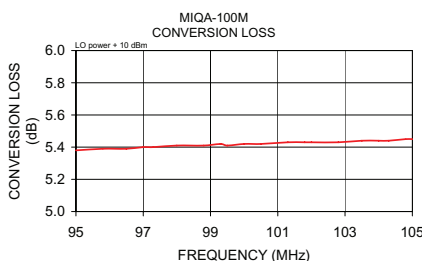
Modulator Electrical Specifications

FREQUENCY (MHz)				CONVERSION LOSS (dB)			CARRIER REJECTION (-dBc)		SIDE BAND REJECTION (-dBc)		HARMONIC SUPPRESSION (-dBc)			
RF (SIGNAL/ LO (CARRIER))		I&Q									3XI/Q		5XI/Q	
fL	fU	Min.	Max.	$\bar{x}$	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
95	105	DC	5	5.5	0.10	6.5	38	30	38	30	48	45	58	55

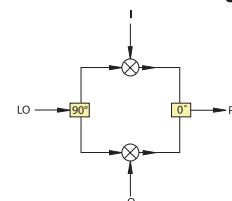
Operating LO power: 10±1dBm
1dB Compression: 0dBm typical
Conversion Loss: (I + Q) power, dBm - RF power, dBm
Carrier and sideband rejections measured at -5dBm I/Q power.

Typical Performance Data

Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection ($\bar{x}$)		Carrier Rejection ($\bar{x}$)		3rd Harmonic Suppression ($\bar{x}$)		5th Harmonic Suppression ($\bar{x}$)		DC Offset ($\bar{x}$) (mV)
	$\bar{x}$ (dB)	σ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	
95.00	5.38	0.02	39.29	44.75	52.53	52.54	48.67	54.98	76.21	73.88	0.21
95.80	5.39	0.03	39.55	44.33	52.71	52.13	48.79	55.31	76.43	73.83	0.20
96.50	5.39	0.03	39.78	44.03	52.17	52.17	48.93	55.49	75.07	72.99	0.20
97.00	5.40	0.03	39.85	43.85	52.19	51.95	49.01	55.77	75.07	72.63	0.19
97.30	5.40	0.03	39.94	43.81	51.97	51.60	48.99	55.76	75.07	73.12	0.21
98.00	5.41	0.03	40.12	43.30	51.77	51.53	49.23	56.37	74.79	72.51	0.21
98.80	5.41	0.03	40.48	42.87	51.40	51.45	49.28	56.69	73.94	71.49	0.21
99.30	5.42	0.02	40.62	42.62	51.50	51.43	49.38	56.91	73.90	71.57	0.21
99.50	5.41	0.03	40.74	42.63	51.44	51.27	49.42	57.03	73.36	71.15	0.23
100.00	5.42	0.03	40.81	42.25	51.12	51.35	49.58	57.31	73.12	70.29	0.22
100.50	5.42	0.03	41.05	41.97	51.12	51.29	49.60	57.59	73.10	70.95	0.21
101.30	5.43	0.02	41.29	41.72	51.06	50.78	49.68	58.16	71.94	70.18	0.22
101.80	5.43	0.02	41.52	41.56	50.81	50.88	49.83	58.36	72.01	70.24	0.21
102.00	5.43	0.02	41.58	41.38	50.89	50.72	49.91	58.72	71.99	70.24	0.21
102.80	5.43	0.02	41.77	41.03	50.55	50.44	50.07	59.22	72.27	69.68	0.21
103.50	5.44	0.02	42.08	40.55	50.35	50.45	50.27	60.13	71.39	69.29	0.23
104.00	5.44	0.02	42.37	40.32	50.07	50.23	50.35	60.23	71.41	69.13	0.23
104.30	5.44	0.02	42.39	40.23	50.37	50.07	50.47	60.33	70.63	69.29	0.23
104.80	5.45	0.02	42.79	40.02	50.00	49.85	50.64	61.17	69.98	69.15	0.23
105.00	5.45	0.02	42.75	39.83	49.95	49.99	50.81	61.15	70.53	68.43	0.23



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.
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