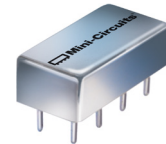


Plug-In I&Q Modulator

50Ω

20 to 23 MHz

MIQA-21M+



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

Pin Connections

LO (carrier)	1
RF (signal)	8
I (0°)(ref.)	7
Q (90°)*	4
NOT USED	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

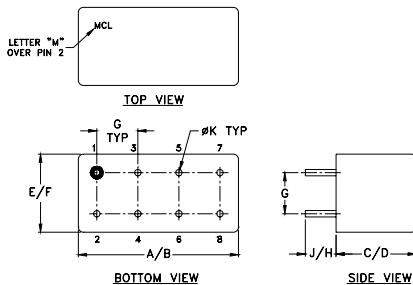
FREQUENCY (MHz)				CONVERSION LOSS (dB)			CARRIER REJECTION (-dBc)		SIDE BAND REJECTION (-dBc)		HARMONIC SUPPRESSION (-dBc)			
RF (SIGNAL/ LO (CARRIER))		I&Q		\bar{x}	σ	Max.	Typ.	Min.	Typ.	Min.	3XI/Q		5XI/Q	
fL	fU	Min.	Max.								Typ.	Min.	Typ.	Min.
20	23	DC	3	6.2	0.14	7.0	50	40	40	30	48	40	65	55

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

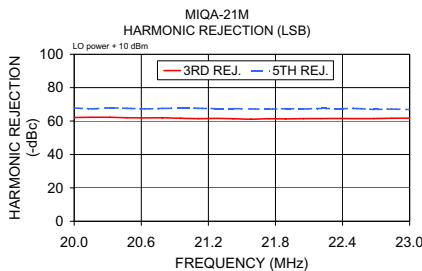
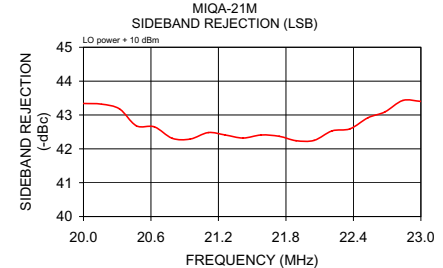
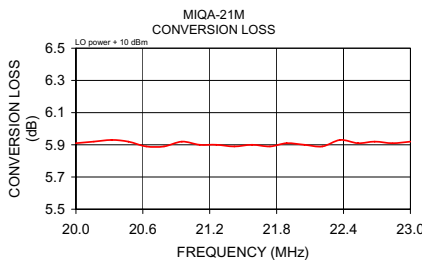


Outline Dimensions (inch/mm)

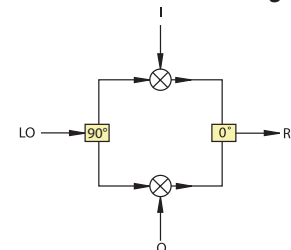
A	B	C	D	E	F
.770	.800	.285	.310	.370	.400
19.56	20.32	7.24	7.87	9.40	10.16
G	H	J	K		wt
.200	.20	.14	.031		grams
5.08	5.08	3.56	0.79		5.2

Typical Performance Data

Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection(x)		Carrier Rejection(x)		3rd. Harmonic Suppression (x)		5th. Harmonic Suppression (x)		DC Offset (x) (mV)
	\bar{x} (dB)	σ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	
20.00	5.91	0.04	43.34	42.73	55.61	54.19	62.14	49.79	67.81	71.33	-0.21
20.16	5.92	0.04	43.32	42.65	55.18	54.49	62.28	49.76	67.35	71.99	-0.21
20.32	5.93	0.03	43.18	42.53	55.38	54.26	62.25	49.79	67.92	71.76	-0.21
20.47	5.92	0.03	42.68	43.11	55.35	55.03	62.01	50.37	67.65	72.60	-0.21
20.63	5.89	0.05	42.65	42.89	55.38	55.12	61.88	50.49	67.34	72.25	-0.21
20.79	5.89	0.04	42.31	42.86	54.99	54.89	61.93	50.56	67.59	71.96	-0.21
20.95	5.92	0.04	42.29	42.85	55.08	54.92	61.68	50.58	67.68	72.38	-0.21
21.11	5.90	0.05	42.48	42.85	55.15	54.91	61.45	50.61	67.65	72.48	-0.21
21.26	5.90	0.04	42.41	42.78	55.28	54.78	61.58	50.68	67.48	72.48	-0.21
21.42	5.89	0.04	42.32	42.93	55.24	54.67	61.41	50.67	67.44	71.97	-0.21
21.58	5.90	0.04	42.41	43.07	55.07	54.83	61.10	50.73	67.27	71.89	-0.20
21.74	5.89	0.04	42.37	43.50	54.99	54.70	61.42	50.80	67.16	72.34	-0.20
21.89	5.91	0.04	42.24	43.40	54.99	54.66	61.29	50.80	67.42	72.13	-0.20
22.05	5.90	0.04	42.25	43.58	54.97	54.70	61.43	50.83	67.27	72.27	-0.20
22.21	5.89	0.05	42.53	43.55	55.10	54.72	61.50	50.85	67.56	72.35	-0.20
22.37	5.93	0.05	42.59	44.03	54.69	54.71	61.52	50.88	67.45	72.08	-0.20
22.53	5.91	0.06	42.92	44.40	54.81	54.77	61.45	50.90	67.51	72.23	-0.20
22.68	5.92	0.05	43.09	44.65	54.91	54.67	61.51	50.90	66.98	72.20	-0.20
22.84	5.91	0.05	43.43	45.19	54.68	54.50	61.68	50.80	67.14	72.36	-0.20
23.00	5.92	0.06	43.40	45.23	54.83	54.26	61.73	50.82	66.93	72.22	-0.20



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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