

Plug-In I&Q Modulator

50Ω

104 to 176 MHz

Maximum Ratings

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

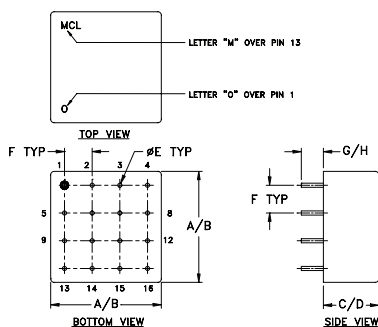
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

LO (carrier)	13
RF (signal)	1
I (0°)(ref.)	8
Q (90°)*	5
GROUND	2,3,4,6,7,9,10,11,12,14,15,16
CASE GROUND	2,3,4,6,7,9,10,11,12,14,15,16

*Q= I +90° for lower sideband suppression

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	wt
.770	.810	.380	.410	.030	.200	.20	.14	grams
19.56	20.57	9.65	10.41	0.76	5.08	5.08	3.56	11.0

Features

- hermetically sealed metal case
- excellent 3rd and 5th harmonic suppression
- good carrier and sideband rejection

Applications

- military, hi-rel applications
- radar communications systems



CASE STYLE: C07
PRICE: \$59.45 ea. QTY (1-9)

+RoHS Compliant

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

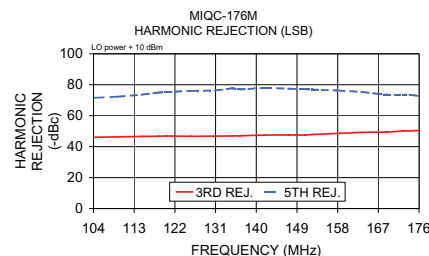
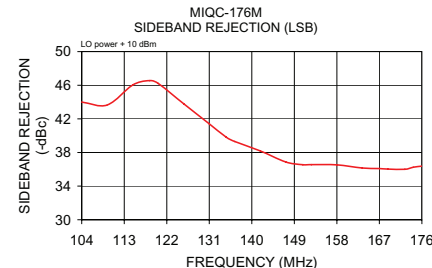
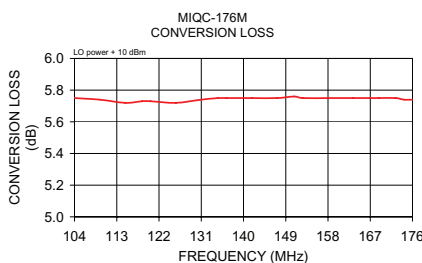
Modulator Electrical Specifications

MODEL NO.	FREQUENCY (MHz)				CONVERSION LOSS (dB)			CARRIER REJECTION (-dBc)		SIDE BAND REJECTION (-dBc)		HARMONIC SUPPRESSION (-dBc)			
	RF (SIGNAL/ LO (CARRIER)	I&Q	fL	fU	Min.	Max.	$\bar{x}$	σ	Max.	Typ.	Min.	Typ.	Min.	3X1/Q	5X1/Q
MIQC-176M	104	176	DC	5	5.5	0.10	7.0	38	30	36	30	47	35	70	50

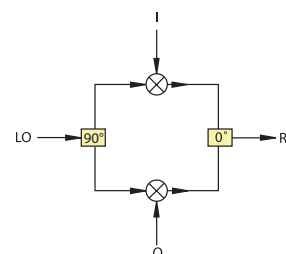
Operating LO power: 10±1dBm
1dB Compression: 0dBm typical
Conversion Loss: (I + Q) power, dBm - RF power, dBm
Carrier and sideband rejections measured at -5dBm I/Q power.

Typical Performance Data

Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection(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)	
104.00	5.75	0.02	44.00	40.36	39.60	39.63	46.08	50.09	71.54	64.27	-0.12
109.40	5.74	0.04	43.65	39.80	39.30	39.32	46.33	50.87	72.31	64.71	-0.11
114.80	5.72	0.04	46.03	39.54	38.98	38.99	46.63	51.30	73.65	64.68	-0.11
118.40	5.73	0.03	46.55	39.15	38.72	38.76	46.75	51.20	74.99	64.74	-0.11
120.20	5.73	0.03	46.21	38.88	38.66	38.68	46.88	51.14	75.24	64.26	-0.11
125.60	5.72	0.03	43.79	37.74	38.38	38.41	46.71	51.25	76.05	64.77	-0.11
131.00	5.74	0.03	41.41	36.65	38.11	38.16	46.80	51.78	76.42	65.40	-0.11
134.60	5.75	0.03	39.82	35.86	37.98	38.02	46.93	52.13	77.57	65.53	-0.10
136.40	5.75	0.03	39.31	35.61	37.90	37.97	47.01	52.05	76.99	65.63	-0.10
141.80	5.75	0.03	38.19	35.02	37.65	37.74	47.45	52.38	77.87	66.22	-0.12
147.20	5.75	0.03	36.87	34.30	37.46	37.58	47.53	52.93	77.43	65.79	-0.09
150.80	5.76	0.03	36.55	34.12	37.40	37.49	47.54	53.01	77.12	66.03	-0.08
152.60	5.75	0.03	36.56	34.13	37.37	37.47	47.87	53.14	76.91	65.90	-0.10
158.00	5.75	0.02	36.53	34.07	37.23	37.34	48.53	54.08	76.27	65.56	-0.08
163.40	5.75	0.02	36.15	34.03	37.17	37.29	49.21	56.24	75.31	65.88	-0.08
167.00	5.75	0.03	36.09	34.06	37.22	37.29	49.33	56.91	74.11	65.51	-0.09
168.80	5.75	0.02	36.03	34.16	37.16	37.30	49.47	56.85	73.67	65.43	-0.09
172.40	5.75	0.02	36.00	34.31	37.12	37.27	50.03	57.15	73.61	66.29	-0.09
174.20	5.74	0.02	36.25	34.46	37.14	37.27	50.26	57.25	73.42	65.85	-0.08
176.00	5.74	0.02	36.38	34.68	37.12	37.25	50.39	57.13	72.67	65.63	-0.08



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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MIQC-176M
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