

# Plug-In I&Q Modulator

50Ω

185 to 205 MHz

## Maximum Ratings

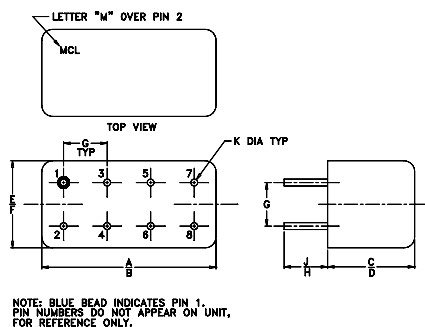
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO Power	50mW
I&Q Current	40mA

## Pin Connections

LO (carrier)	1
RF (signal)	8
I (0°)(ref.)	7
Q (90°)*	4
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

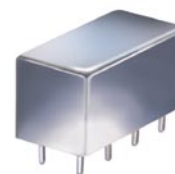
G	H	J	K	wt
.200	.20	.14	.031	grams
5.08	5.08	3.56	0.79	5.2

## Features

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

## Applications

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



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

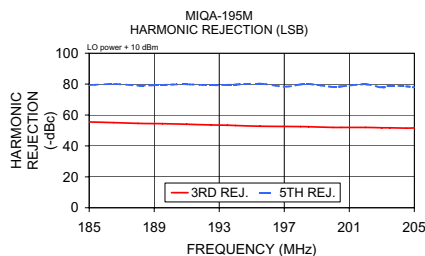
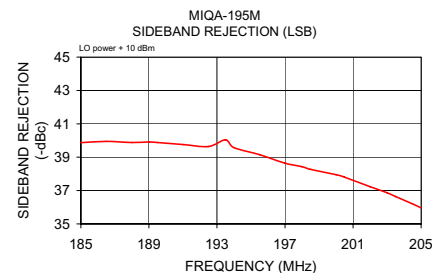
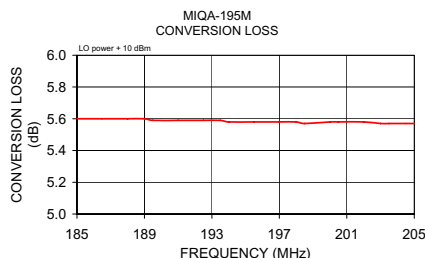
## Modulator Electrical Specifications

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.	$\bar{x}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
MIQA-195M	185	205	DC	5	5.6	0.10	6.5	38	30	38	30	48	45	58	55

Operating LO power: 10±1 dBm  
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)
	$\bar{x}$ (dB)	$\sigma$ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	(mV)
185.00	5.60	0.03	39.87	42.64	41.48	41.50	55.49	49.15	79.33	77.29	0.47
186.50	5.60	0.03	39.95	42.51	41.31	41.31	55.07	48.98	80.07	77.46	0.47
188.00	5.60	0.03	39.88	42.29	41.14	41.17	54.59	48.72	79.11	77.26	0.47
189.00	5.60	0.03	39.91	42.13	41.01	41.01	54.45	48.70	79.29	77.02	0.48
189.50	5.59	0.03	39.88	41.95	40.97	41.00	54.40	48.68	79.50	77.74	0.48
191.00	5.59	0.02	39.76	41.88	40.85	40.88	54.02	48.54	79.84	77.26	0.47
192.50	5.59	0.03	39.64	41.32	40.77	40.76	53.58	48.33	79.22	77.41	0.47
193.50	5.59	0.02	40.04	41.09	40.67	40.66	53.38	48.28	79.56	77.42	0.49
194.00	5.58	0.03	39.57	40.99	40.65	40.66	53.20	48.16	79.68	76.94	0.49
195.50	5.58	0.03	39.15	40.43	40.52	40.50	52.75	48.00	80.31	76.48	0.49
197.00	5.58	0.03	38.64	39.99	40.41	40.45	52.61	47.96	78.35	77.12	0.50
198.00	5.58	0.03	38.43	39.68	40.36	40.35	52.53	47.72	79.79	77.68	0.51
198.50	5.57	0.03	38.27	39.38	40.31	40.31	52.41	47.74	80.05	76.06	0.50
200.00	5.58	0.03	37.95	39.04	40.17	40.21	51.99	47.60	78.17	76.04	0.51
200.50	5.58	0.02	37.80	38.83	40.11	40.10	51.99	47.56	78.51	76.18	0.52
202.00	5.58	0.03	37.23	38.09	40.01	39.99	51.96	47.45	79.84	76.57	0.53
203.00	5.57	0.02	36.87	37.64	39.91	39.93	51.76	47.38	77.80	75.84	0.54
203.50	5.57	0.03	36.64	37.44	39.82	39.79	51.73	47.36	78.95	75.34	0.54
204.50	5.57	0.03	36.20	36.98	39.74	39.76	51.53	47.32	78.55	75.42	0.54
205.00	5.57	0.02	35.96	36.44	39.69	39.74	51.64	47.20	77.88	75.46	0.55



## I&Q modulation block diagram

