

Plug-In

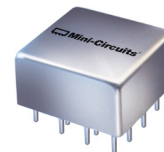
I&Q Modulator

50Ω

67 to 73 MHz

NON-CATALOG

MIQY-70M+



CASE STYLE: C07

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
ISOLATE**	10,11
GROUND	2,3,4,6,7,9,12,14,15,16
CASE GROUND	2,3,4,6,7,9,12,14,15,16

*Q= I + 90° for lower sideband suppression
 **external variable capacitors can be connected at pins 10 & 11 to ground for improvement of sideband rejection.

Features

- good carrier and sideband
- excellent 3rd and 5th harmonic suppression

Applications

- radar
- communications systems

Modulator Electrical Specifications

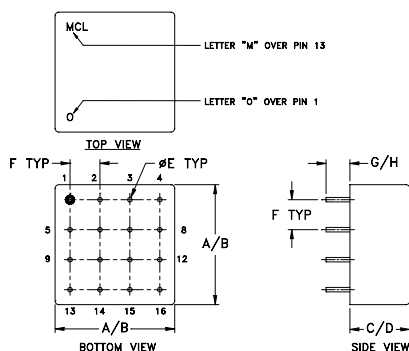
FREQUENCY (MHz)				CONVERSION LOSS (dB)			CARRIER REJECTION (-dBc)		SIDE BAND REJECTION (-dBc)		HARMONIC SUPPRESSION (-dBc)			
RF (SIGNAL/ LO (CARRIER))		I&Q									3XI/Q		5XI/Q	
fL	fU	Min.	Max.	$\bar{x}$	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
67	73	DC	5	5.8	0.20	7.0	40	35	36	30	47	40	60	50

1. Operating LO power: 10±1dBm
2. 1dB Compression: 0dBm typical
3. Conversion Loss: (I + Q) power, dBm - RF power, dBm
4. Carrier and sideband rejections measured at -5dBm I/Q power.

Typical Performance Data

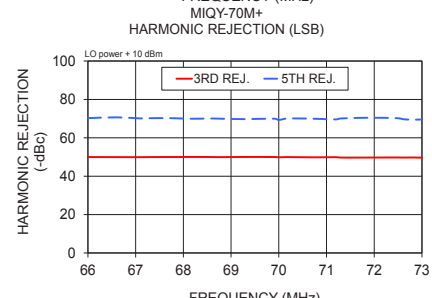
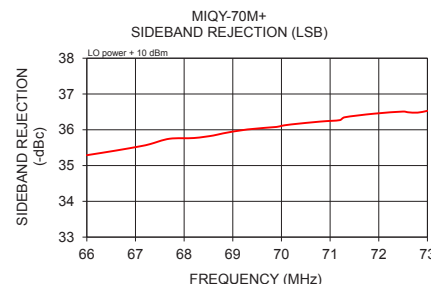
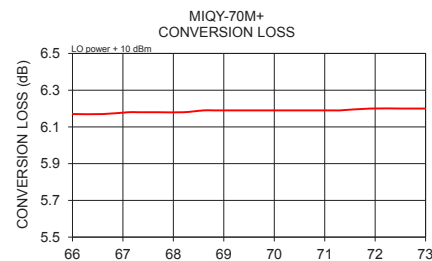
Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection (x)		Carrier Rejection (x)		3rd Harmonic Suppression (x)		5th. Harmonic Suppression (x)		DC Offset (mV)
	$\bar{x}$ (dB)	σ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	
66.00	6.17	0.05	35.29	37.71	52.02	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

Outline Drawing

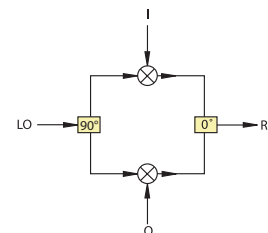


Outline Dimensions (inch mm)

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



I&Q modulation block diagram



Notes

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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