

# Coaxial I&Q Modulator

50Ω

66 to 73 MHz

## ZFMIQ-70ML



Generic photo used for illustration purposes only

CASE STYLE: J17

Connectors Model  
SMA ZFMIQ-70ML  
BRACKET (OPTION "B")

### 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.

### Coaxial Connections

LO (carrier)	1
RF (signal)	3
I (0°)(ref.)	S
Q (90°)*	2

\*Q= I +90° for lower sideband suppression

### Features

- rugged shielded case
- excellent 3rd and 5th order harmonic suppression
- good carrier and sideband rejection

### Applications

- radar and communication 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		$\bar{x}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	3XI/Q		5XI/Q	
$f_L$	$f_U$	Min.	Max.	Min.	Max.								Typ.	Min.	Typ.	Min.
66	73	DC	5	5.7	0.1	6.5			38	30	38	30	48	43	58	55

Operating LO power: 10±1dBm

1dB Compression: 0dBm typical

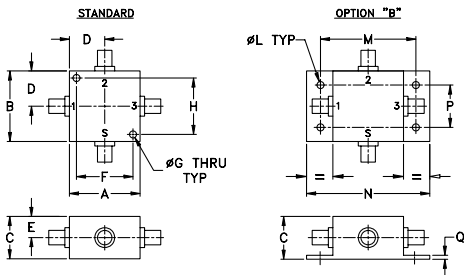
Conversion Loss: (I + Q) power, dBm - RF power, dBm

Carrier and sideband rejections measured at -5dBm I/Q power.

### Typical Performance Data

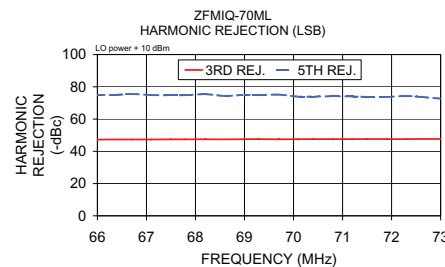
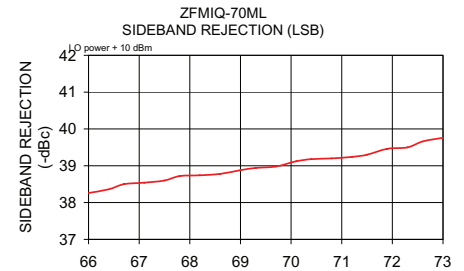
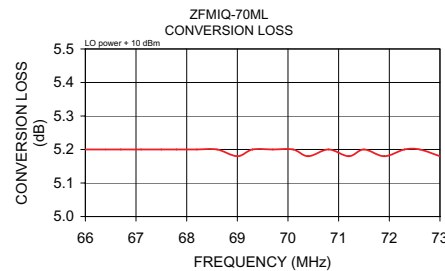
Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection ( $\bar{x}$ )		Carrier Rejection ( $\bar{x}$ )		3rd Harmonic Suppression ( $\bar{x}$ )		5th Harmonic Suppression ( $\bar{x}$ )		DC Offset (mV)
	$\bar{x}$ (dB)	$\sigma$ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	
66.00	5.20	0.00	38.26	37.56	54.72	55.04	47.30	47.58	74.90	73.48	0.09
66.40	5.20	0.00	38.36	37.72	54.40	54.88	47.32	47.66	75.06	73.86	0.09
66.70	5.20	0.00	38.50	37.76	54.58	54.66	47.34	47.68	75.52	74.60	0.09
67.10	5.20	0.00	38.54	37.92	54.10	54.64	47.34	47.68	74.94	75.12	0.09
67.50	5.20	0.00	38.60	38.08	54.36	54.30	47.42	47.72	74.76	75.22	0.09
67.80	5.20	0.00	38.72	38.22	53.88	53.98	47.44	47.74	74.84	74.94	0.08
68.20	5.20	0.00	38.74	38.40	53.96	53.92	47.48	47.72	75.42	74.58	0.08
68.60	5.20	0.00	38.78	38.58	53.56	53.70	47.44	47.74	74.38	74.54	0.08
69.00	5.18	0.04	38.88	38.76	53.64	54.10	47.52	47.80	75.04	75.38	0.08
69.30	5.20	0.00	38.94	38.94	53.36	54.12	47.56	47.80	74.86	75.12	0.08
69.70	5.20	0.00	38.98	39.06	53.16	53.78	47.50	47.76	75.14	74.96	0.08
70.10	5.20	0.00	39.12	39.30	53.02	53.70	47.54	47.78	73.92	75.16	0.08
70.40	5.18	0.04	39.18	39.46	53.16	53.52	47.58	47.72	73.98	74.88	0.08
70.80	5.20	0.00	39.20	39.68	53.10	53.54	47.58	47.72	74.16	75.04	0.08
71.20	5.18	0.04	39.24	39.88	53.02	53.34	47.58	47.72	74.02	74.48	0.08
71.50	5.20	0.00	39.30	40.00	52.62	53.52	47.60	47.76	73.80	74.98	0.08
71.90	5.18	0.04	39.46	40.18	52.78	53.30	47.60	47.80	73.76	74.44	0.08
72.30	5.20	0.00	39.50	40.36	52.40	53.58	47.58	47.74	74.30	74.66	0.08
72.60	5.20	0.00	39.66	40.50	52.30	53.22	47.64	47.78	73.72	74.46	0.09
73.00	5.18	0.04	39.76	40.76	52.16	53.02	47.62	47.78	72.70	73.16	0.09

### Outline Drawing

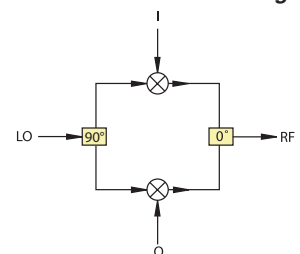


### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.000	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	75.0



### 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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