

# I/Q Mixer / Modulator

# Model MIQ3xMS-3

Communications Band

RF 3.0 to 6.0 GHz

## Electrical Specifications:<sup>(1)</sup>

Parameter	Conditions			Specifications		
	RF (GHz)	LO (GHz)	IF (MHz)	Min	Typical	Max
SSB Conversion loss: <sup>(2) (3)</sup>	3.0-6.0	3.0-6.0	DC-100		5.5 dB	7.5 dB
	3.0-6.0	3.0-6.0	DC-300		6.5 dB	8.5 dB
Image Rejection Side-band Suppression: <sup>(4)</sup>	3.0-6.0	3.0-6.0	DC-300	20 dB	28 dB	
Amplitude Match	3.0-6.0	3.0-6.0	DC-300		0.1 dB	
Phase Match	3.0-6.0	3.0-6.0	DC-300		2.5 deg	
Isolation	3.0-6.0	3.0-6.0	DC-300	LO to RF:	25 dB	31 dB
				LO to I/Q:	20 dB	30 dB
				RF to I/Q:		50 dB
				I/Q to RF:		40 dB
Input 1 dB Compression Point:	3.0-6.0	3.0-6.0	DC-300		+5 dBm +8 dBm +12 dBm	MI Q34 MI Q36 MI Q37
Input Third Order Intercept Point:	3.0-6.0	3.0-6.0	DC-300		+14 dBm +17 dBm +21 dBm	MI Q34 MI Q36 MI Q37
LO Power: <sup>(5)</sup>	3.0-6.0	3.0-6.0	DC-300		+10 dBm +13 dBm +17 dBm	MI Q34 MI Q36 MI Q37

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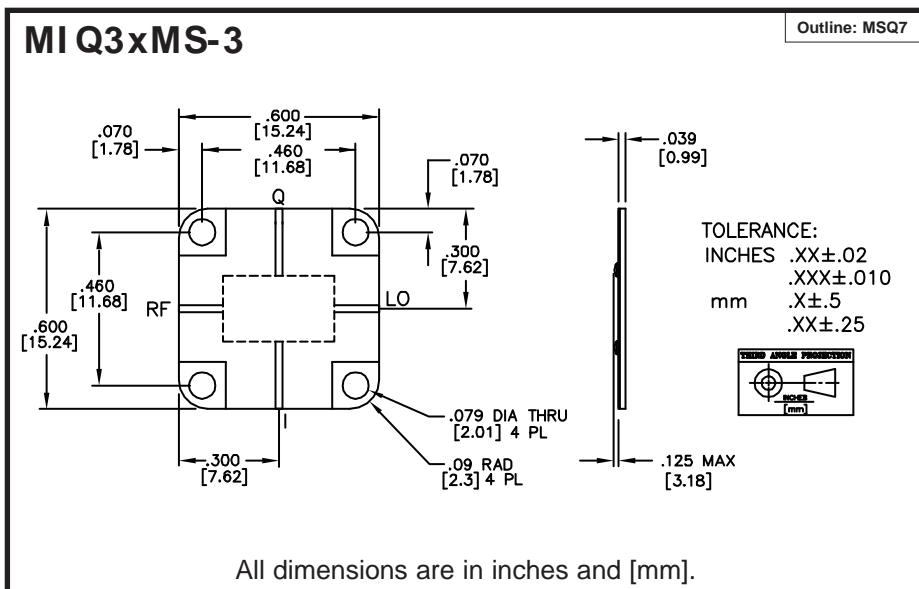
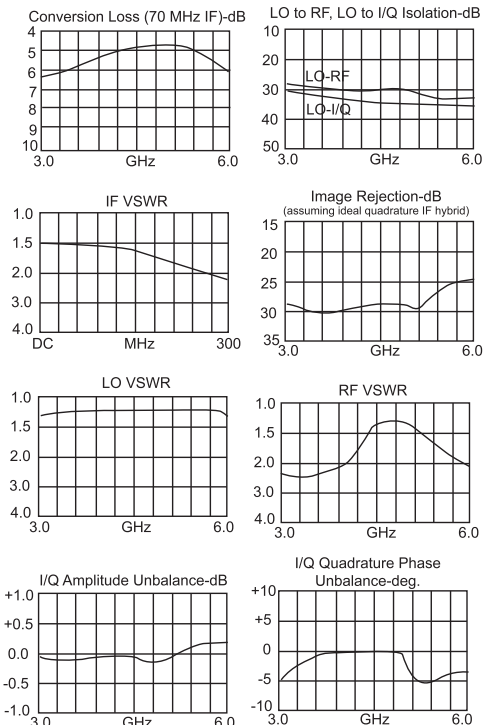
### LO Power

4 = +10 dBm  
6 = +13 dBm  
7 = +17 dBm

### Notes:

- Specifications are guaranteed when tested as a downconverter in a 50 Ohm system at +25°C with the nominal LO power. Specifications indicated as typical are not guaranteed.
- Noise figure is typically within ±0.5 dB of conversion loss for IF frequencies greater than 10 MHz.
- Conversion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C. Conversion loss is the combined value.
- Measured with an IF quadrature hybrid whose amplitude and phase errors are 0.5 dB and 3 degrees maximum.
- Usable LO drives are up to 2 dB below to 3 dB above nominal.
- See Application notes M112, for aid in selecting the outline and for mounting and installation information.

## Typical Performance at 25°C



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Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, FL 32905 · PH (888) 553-7531 · Fax (888) 553-7532

www.SpectrumMicrowave.com Spectrum Microwave · 2707 Black Lake Place · Philadelphia, PA 19154 · PH (215) 464-4000 · Fax (215) 464-4001