

# I/Q Mixer / Modulator

# Model MIQ2xSMD-2

Communications Band

RF 1.9 to 4.2 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>	2.0-4.2	2.0-4.2	DC-500		5.5 dB	7.0 dB
	1.9-4.2	1.9-4.2	DC-500		6.0 dB	7.5 dB
Image Rejection Side-band Suppression: <sup>(4)</sup>	1.9-2.0	1.9-2.0	DC-500	18 dB	26 dB	
	2.0-4.2	2.0-4.2	DC-500	20 dB	32 dB	
Amplitude Match	1.9-4.2	1.9-4.2	DC-500		0.2 dB	
Phase Match	1.9-4.2	1.9-4.2	DC-500		2 deg	
Isolation	1.9-4.2	1.9-4.2	DC-500	LO to RF:	34 dB	42 dB
				LO to I/Q:		30 dB
				RF to I/Q:		24 dB
				I/Q to RF:		40 dB
Input 1 dB Compression Point:	1.9-4.2	1.9-4.2	DC-500		+6 dBm	MIQ24
					+9 dBm	MIQ26
					+13 dBm	MIQ27
Input Third Order Intercept Point:	1.9-4.2	1.9-4.2	DC-500		+14 dBm	MIQ24
					+17 dBm	MIQ26
					+21 dBm	MIQ27
LO Power: <sup>(5)</sup>	1.9-4.2	1.9-4.2	DC-500		+10 dBm	MIQ24
					+13 dBm	MIQ26
					+17 dBm	MIQ27

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### LO Power

4 = +10 dBm

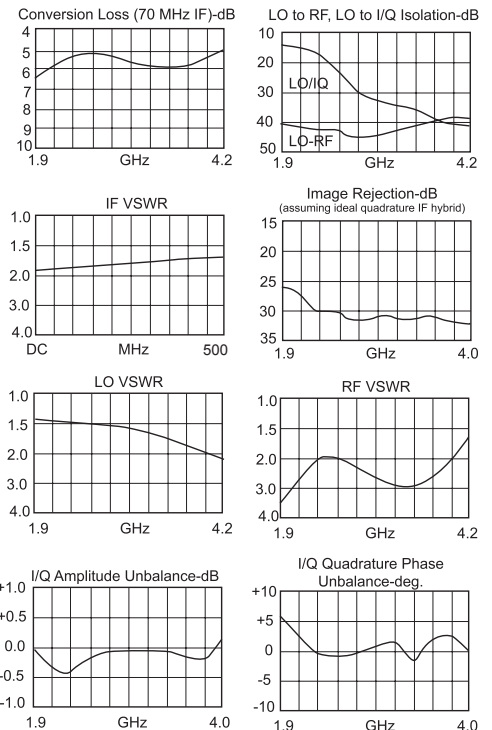
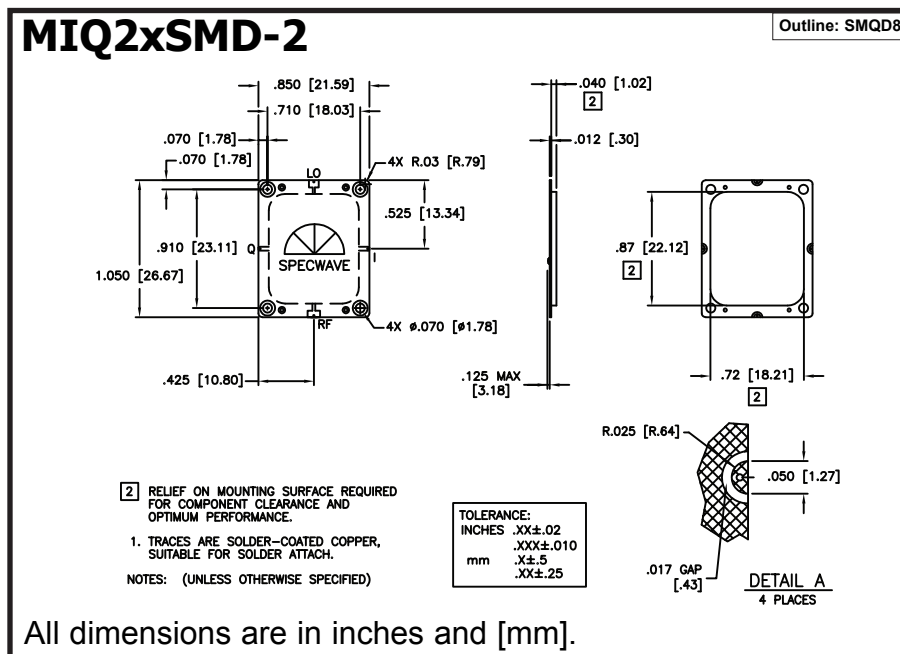
6 = +13 dBm

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. An IF quadrature hybrid is not included.
- 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



All dimensions are in inches and [mm].



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

Rev.  
8/28/07

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