

I/Q Mixer / Modulator

Model MIQ5xMS-1

Communications Band

RF 5.6 to 9.0 GHz

Electrical Specifications:⁽¹⁾

Parameter	Conditions			Specifications		
	RF (GHz)	LO (GHz)	IF (MHz)	Min	Typical	Max
SSB Conversion loss:^{(2) (3)}	5.6-9.0	5.6-9.0	DC-500		5.0 dB	6.5 dB
Image Rejection Side-band Suppression:⁽⁴⁾	5.8-8.8	5.8-8.8	DC-500	22 dB	33 dB	
	5.6-9.0	5.6-9.0	DC-500	18 dB	32 dB	
Amplitude Match	5.6-9.0	5.6-9.0	DC-500		0.2 dB	
Phase Match	5.6-9.0	5.6-9.0	DC-500		3 deg	
Isolation	5.6-9.0	5.6-9.0	DC-500	LO to RF:	25 dB	31 dB
				LO to I/Q:	25 dB	40 dB
				RF to I/Q:		26 dB
				I/Q to RF:		40 dB
Input 1 dB Compression Point:	5.6-9.0	5.6-9.0	DC-500		+5 dBm +8 dBm +12 dBm	MIQ54 MIQ56 MIQ57
Input Third Order Intercept Point:	5.6-9.0	5.6-9.0	DC-500		+14 dBm +17 dBm +21 dBm	MIQ54 MIQ56 MIQ57
LO Power:⁽⁵⁾	5.6-9.0	5.6-9.0	DC-500		+10 dBm +13 dBm +17 dBm	MIQ54 MIQ56 MIQ57

Model MIQ5xMS-1

LO Power

4 = +10 dBm

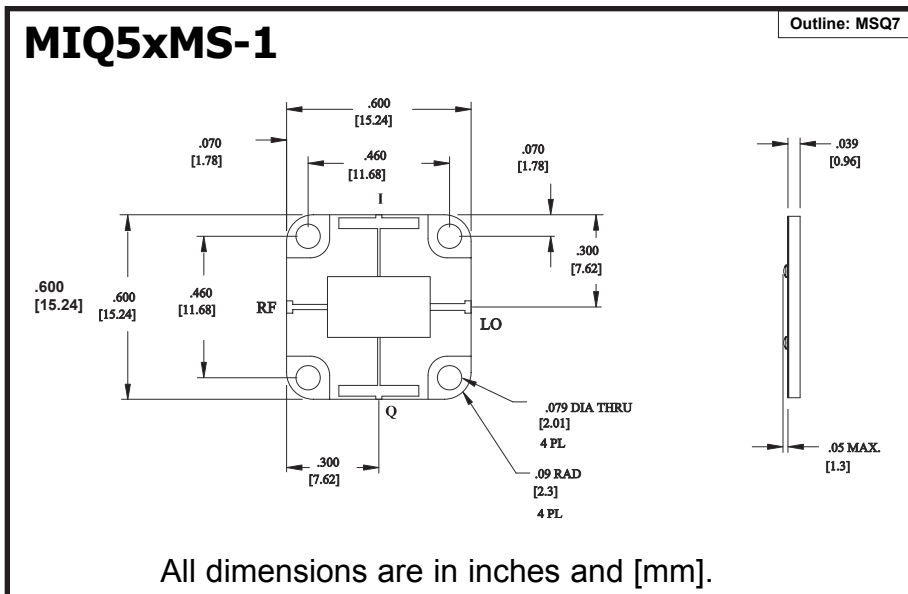
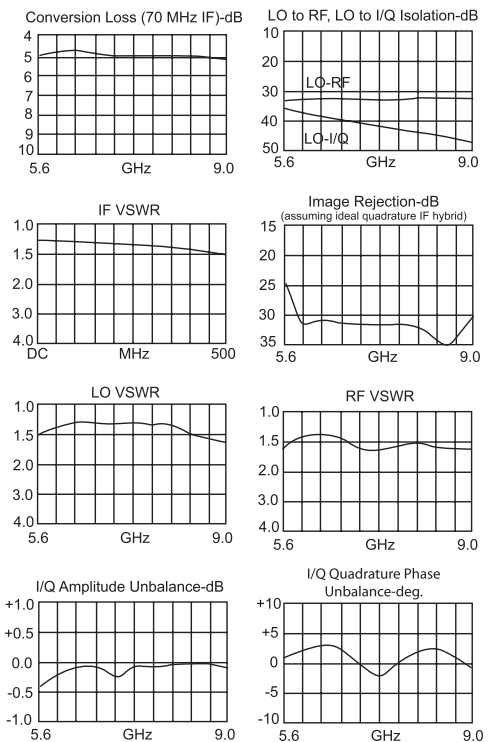
6 = +13 dBm

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



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

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