

Image Reject Mixer / SSB Modulator

Communications Band

Model IRM5xMS-1

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	50-90		5.0 dB	6.0 dB
Image Rejection Sideband Suppression: ⁽⁴⁾	5.8-8.8	5.8-8.8	70	17 dB	26 dB	
	5.6-9.0	5.6-9.0	50-90	16 dB	23 dB	
Isolation						
	LO to RF:	5.6-9.0		25 dB	31 dB	
	LO to I/Q:	5.6-9.0		25 dB	40 dB	
	RF to I/Q:	5.6-9.0			26 dB	
I/Q to RF:			50-90		40 dB	
Input 1 dB Compression Point:	5.6-9.0	5.6-9.0	50-90		+5 dBm +8 dBm +12 dBm	MIQ54 MIQ56 MIQ57
Input Third Order Intercept Point:	5.6-9.0	5.6-9.0	50-90		+14 dBm +17 dBm +21 dBm	MIQ54 MIQ56 MIQ57
LO Power: ⁽⁵⁾	5.6-9.0	5.6-9.0	50-90		+10 dBm +13 dBm +17 dBm	MIQ54 MIQ56 MIQ57

Model IRM5xMS-1

LO Power

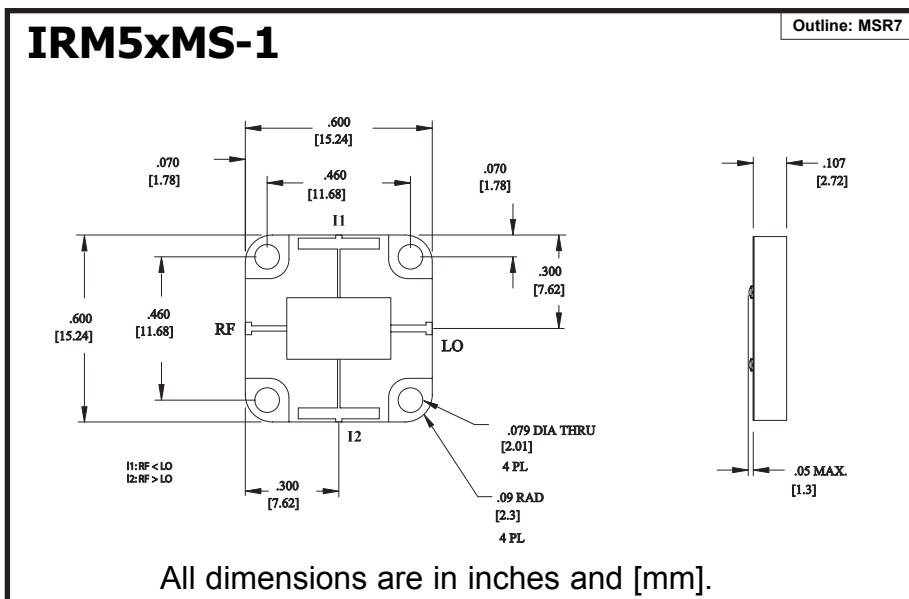
4 = +10 dBm

6 = +13 dBm

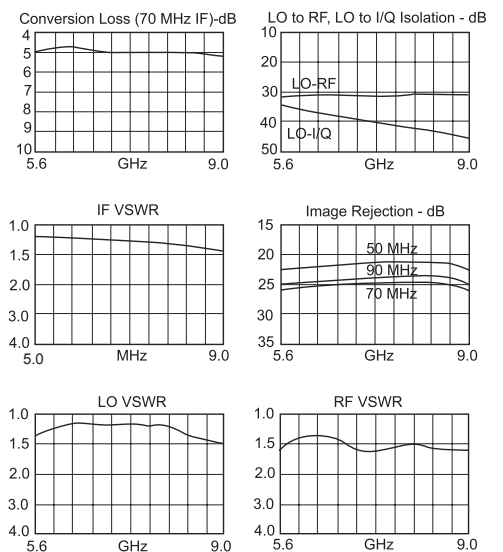
7 = +17 dBm

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.
- Conversion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
- 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



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