

# Double Balanced Mixer

Ultra-Broadband

# Model MM9xMS-1 Model MM9xMS-17

RF 1.8 to 20.0 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>	3.0-19.0	3.0-19.0	DC-400		5.5 dB	7.5 dB
	1.8-20.0	1.8-20.0	DC-400		5.8 dB	8.5 dB
	1.8-20.0	1.8-20.0	DC-800		7.2 dB	10.5 dB
Isolation LO to RF: LO to IF:  RF to IF: IF to RF:		1.8-20.0		20 dB	28 dB	
		4.0-19.0		15 dB	23 dB	
	1.8-20.0	1.8-20.0	DC-800	12 dB	22 dB	
Input 1 dB Compression Point:					28 dB	
					40 dB	
Input Third Order Intercept Point:	1.8-20.0	1.8-20.0	DC-800		+2 dBm	MM93
					+5 dBm	MM94
					+8 dBm	MM96
					+12 dBm	MM97
LO Power: <sup>(4)</sup>	1.8-20.0	1.8-20.0	DC-800		+11 dBm	MM93
					+14 dBm	MM94
					+17 dBm	MM96
					+23 dBm	MM97
					+7 dBm	MM93
					+10 dBm	MM94
					+14 dBm	MM96
					+19 dBm	MM97

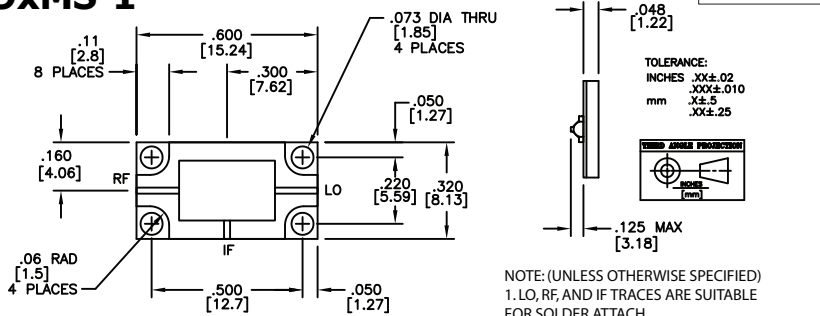
Model MM9xMS-1  
Model MM9xMS-17

## LO Power

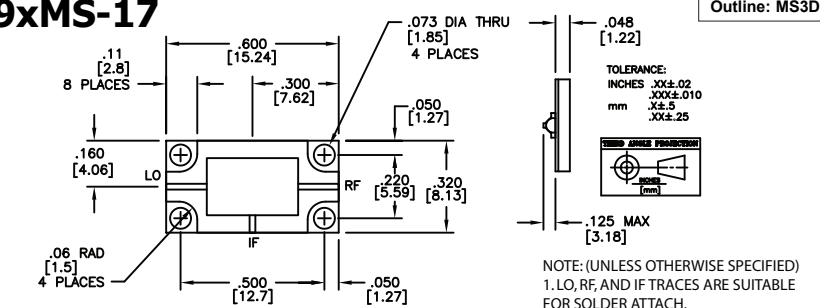
3 = +7 dBm  
4 = +10 dBm  
6 = +14 dBm  
7 = +19 dBm

- Notes: 1. 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.  
2. Noise figure is typically within ±0.5 dB of conversion loss for IF frequencies greater than 10 MHz.  
3. Conversion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.  
4. Usable LO drives are up to 2 dB below and 3 dB above nominal.  
5. See Application Note M112, for aid in selecting the outline and for mounting and installation information.

## MM9xMS-1

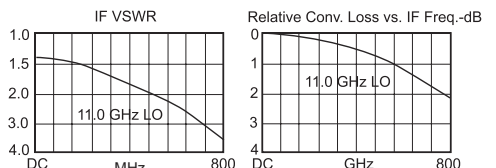
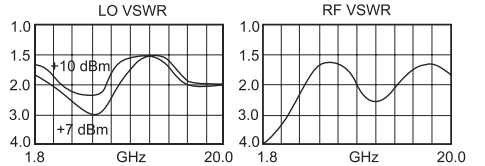
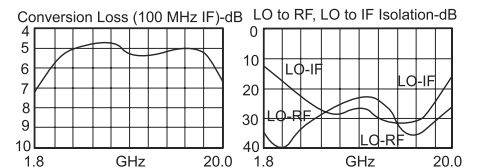
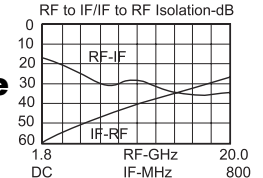


## MM9xMS-17



All dimensions are in inches and [mm].

## 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 · 2707 Black Lake Place · Philadelphia, PA 19154 · PH (215) 464-4000 · Fax (215) 464-4001

REV A  
1/5/2010