Double Balanced Mixer
Multi-Octave Band

Model MM9xMS-3
Model MM9xMS-13
RF 4.0 to 20.0 GHz

Electrical Specifications [1]:

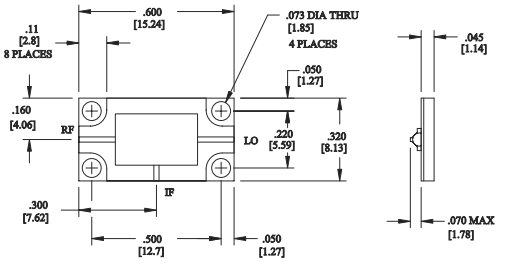
Parameter	Conditions RF(GHz)	LO(GHz)	IF(MHz)	Specifications Min	Typical	Max
SSB Conversion loss:[2] [3]	5.0-18.5	5.0-18.5	DC-500		6.5 dB	8.0 dB
	5.0-18.5	5.0-18.5	DC-2000		7.0 dB	8.5 dB
	5.0-18.5	5.0-18.5	DC-4000		8.0 dB	9.5 dB
	4.0-20.0	4.0-20.0	DC-500		7.0 dB	9.5 dB
	4.0-20.0	4.0-20.0	DC-2000		7.5 dB	10.0 dB
	4.0-20.0	4.0-20.0	DC-4000		8.5 dB	11.5 dB
Isolation						
LO to RF:		4.0-5.0		20 dB	30 dB	
		5.0-20.0		25 dB	38 dB	
LO to IF:		4.0-7.0		16 dB	21 dB	
		7.0-20.0		20 dB	27 dB	
RF to IF:	4.0-20.0				20 dB	
Input 1-dB Compression Point:	4.0-20.0	4.0-20.0	DC-4000		+2 dBm	MM93
					+5 dBm	MM94
					+8 dBm	MM96
					+12 dBm	MM97
Input Third Order Intercept Point:	4.0-20.0	4.0-20.0	DC-4000		+11 dBm	MM93
					+14 dBm	MM94
					+18 dBm	MM96
					+21 dBm	MM97
LO Power: [4]	4.0-20.0	4.0-20.0	DC-4000		+7 dBm	MM93
					+10 dBm	MM94
					+14 dBm	MM96
					+18 dBm	MM97

LO Power
3 = +7 dBm
4 = +10 dBm
6 = +14 dBm
7 = +18 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.

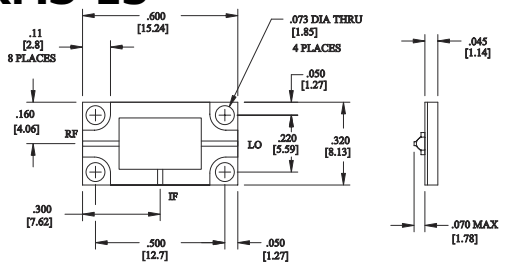
MM9xMS-3

Outline: MS3C



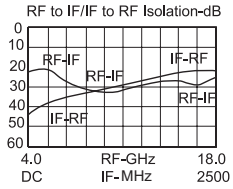
MM9xMS-13

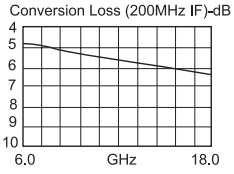
Outline: MS3D

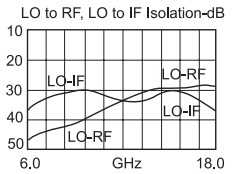


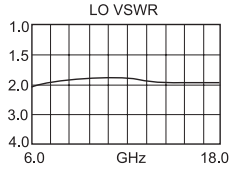
All dimensions are in inches and [mm].

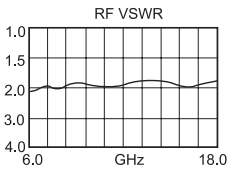
Typical Performance at 25˚C

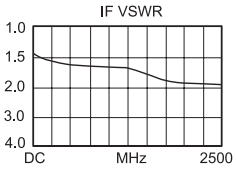


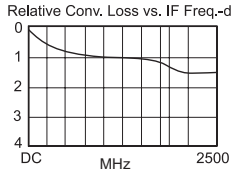












Mixers