

# Double Balanced Mixer

## Multi-Octave Band

# Model MM4xMS-10

# Model MM4xMS-17

RF 2.0 to 9.0 GHz

### Electrical Specifications <sup>(1)</sup>:

Parameter	Conditions			Specifications	
	RF(GHz)	LO(GHz)	IF(MHz)	Typical	Max
SSB Conversion loss: <sup>(2) (3)</sup>	3.0-8.0	3.0-8.0	DC-500	5.0 dB	7.0 dB
	3.0-8.0	3.0-8.0	DC-1000	6.0 dB	8.0 dB
	3.0-8.0	3.0-8.0	DC-1500	7.0 dB	9.0 dB
	2.0-9.0	2.0-9.0	DC-1500	8.0 dB	10.5 dB
Isolation		2.0-9.0		36 dB	
	LO to RF: LO to IF: RF to IF:	2.0-9.0		37 dB 20 dB	
Input 1-dB Compression Point:	2.0-9.0	2.0-9.0	DC-1500	+1 dBm +4 dBm +8 dBm +12 dBm	MM43 MM44 MM46 MM47
Input Third Order Intercept Point:	2.0-9.0	2.0-9.0	DC-1500	+11 dBm +14 dBm +18 dBm +22 dBm	MM43 MM44 MM46 MM47
LO Power: <sup>(4)</sup>	2.0-9.0	2.0-9.0	DC-1500	+7 dBm +10 dBm +13 dBm +18 dBm	MM43 MM44 MM46 MM47

→ **LO Power**  
 3 = +7 dBm  
 4 = +10 dBm  
 6 = +13 dBm  
 7 = +18 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.
- Usable LO drives are up to 2 dB below and 3 dB above nominal.

## MM4xMS-10

Microstrip Traces:  
LO, RF, and IF traces are 0.02 inch wide copper suitable for solder attach.

Outline: MS2TA

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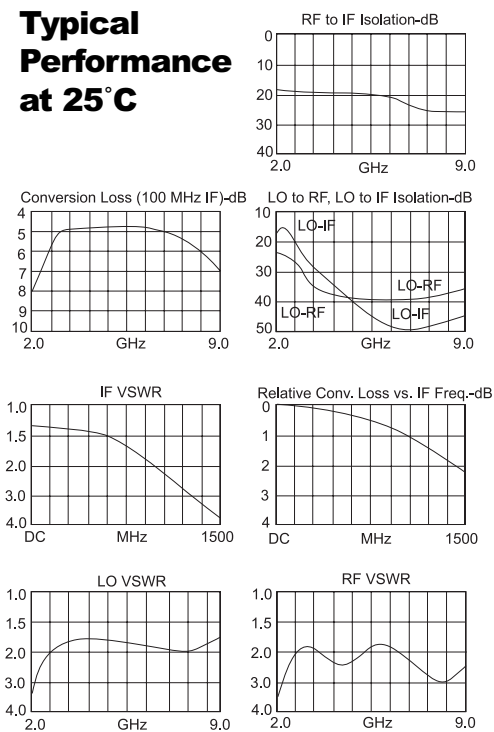
## MM4xMS-17

Microstrip Traces:  
LO, RF, and IF traces are 0.02 inch wide copper suitable for solder attach.

Outline: MS2TB

**All dimensions are in inches and [mm].**

### Typical Performance at 25°C



Mixers