

# Double Balanced Mixer

Communications Band

**Model MC5xMS-7**  
**Model MC5xMS-15**  
 RF 3.5 to 15.0 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>	3.7-14.5	3.7-14.5	DC-500		5.0 dB	7.0 dB
	3.7-14.5	3.7-14.5	DC-2000		5.5 dB	7.5 dB
	3.5-15.0	3.5-15.0	DC-4000		7.5 dB	9.5 dB
Isolation LO to RF: LO to IF: RF to IF: IF to RF:	3.5-15.0	3.5-15.0	DC-2000 DC-4000	27 dB 23 dB	35 dB	
		3.5-15.0			38 dB	
					23 dB	
Input 1-dB Compression Point:	3.5-15.0	3.5-15.0	DC-4000		+1 dBm	MC53
					+4 dBm	MC54
					+8 dBm	MC56
Input Third Order Intercept Point:	3.5-15.0	3.5-15.0	DC-4000		+12 dBm	MC57
					+11 dBm	MC53
					+14 dBm	MC54
LO Power: <sup>(4)</sup>	3.5-15.0	3.5-15.0	DC-4000		+18 dBm	MC56
					+7 dBm	MC57
					+10 dBm	MC53
					+13 dBm	MC54
					+18 dBm	MC56
					+18 dBm	MC57

Model MC5xMS-7  
 Model MC5xMS-15

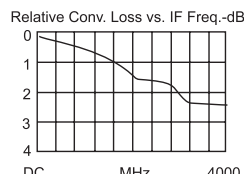
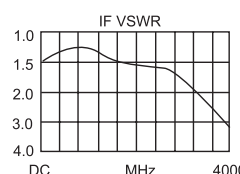
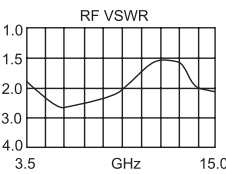
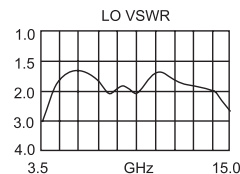
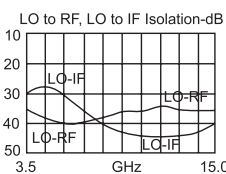
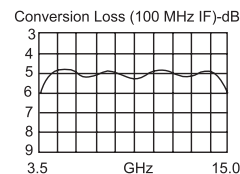
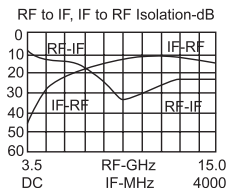
### LO Power

3 = +7 dBm  
 4 = +10 dBm  
 6 = +14 dBm  
 7 = +18 dBm

### Notes:

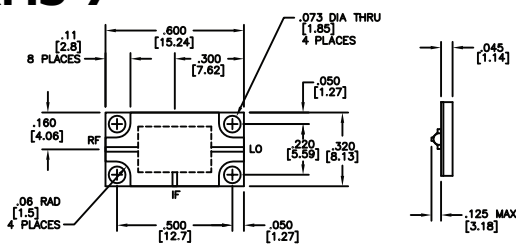
- Specifications are guaranteed when tested as a downconverter in a 50 Ohm system at +25°C with the nominal LO power. Specifications indicated as typical are not guaranteed.
- Noise figure is typically within ±0.5 dB of conversion loss if IF frequencies greater than 10 MHz.
- Conversion loss typically 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.
- See Application note M112, for aid in selecting the outline and for mounting and installation information.

## Typical Performance at 25°C



## MC5xMS-7

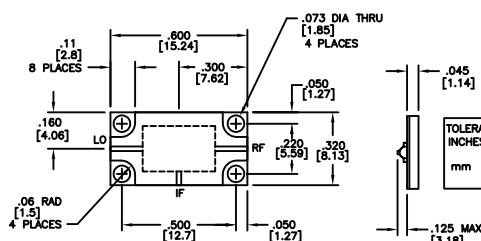
Outline: MS3C



TOLERANCE:  
 INCHES .XX±.02  
 .XXX±.010  
 mm .X±.5  
 .XX±.25

## MC5xMS-15

Outline: MS3D



TOLERANCE:  
 INCHES .XX±.02  
 .XXX±.010  
 mm .X±.5  
 .XX±.25

NOTES: (UNLESS OTHERWISE SPECIFIED)  
 1. LO, RF, AND IF TRACES ARE  
 .02[0.5] WIDE SOLDER-COATED  
 COPPER, SUITABLE FOR SOLDER  
 ATTACH.

All dimensions are in inches and [mm].



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

Rev.  
 6/28/07

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