

Double Balanced Mixer

Communications Band

Model MC5xMS-7

Model MC5xMS-15

RF 3.5 to 15.0 GHz

Electrical Specifications:⁽¹⁾

Parameter	Conditions			Specifications		
	RF(GHz)	LO(GHz)	IF(MHz)	Min	Typical	Max
SSB Conversion loss: ^{(2) (3)}	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: ⁽⁴⁾	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

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LO Power

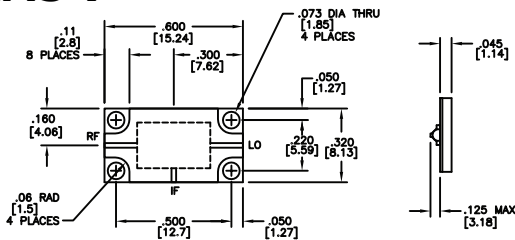
3 = +7 dBm
4 = +10 dBm
6 = +14 dBm
7 = +18 dBm

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.

MC5xMS-7

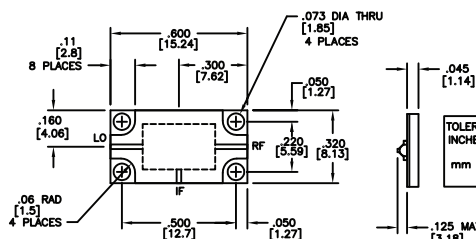
Outline: MS3C



TOLERANCE:
INCHES .XX±.02
MM .XX±.010
MM .XX±.25

MC5xMS-15

Outline: MS3D



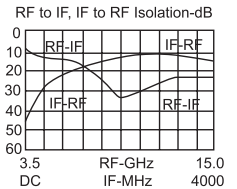
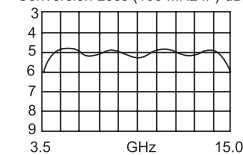
TOLERANCE:
INCHES .XX±.02
MM .XX±.010
MM .XX±.25

NOTE: (UNLESS OTHERWISE SPECIFIED)
1. LO, RF, AND IF TRACES ARE .020" WIDE SOLDER COATED OR PLATED COPPER SUITABLE FOR SOLDER ATTACH.

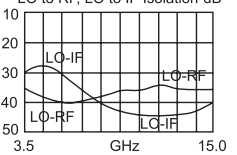
All dimensions are in inches and [mm].

Typical Performance at 25°C

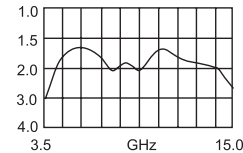
Conversion Loss (100 MHz IF)-dB



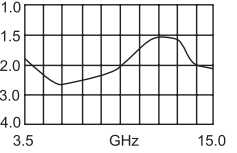
LO to RF, LO to IF Isolation-dB



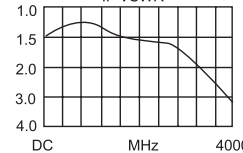
LO VSWR



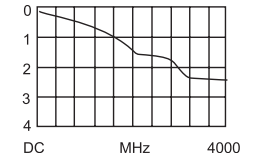
RF VSWR



IF VSWR



Relative Conv. Loss vs. IF Freq.-dB



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