# **Double Balanced Mixer**

### **Communications Band**

## **Model MC5xMS-5 Model MC5xMS-14** RF 3.5 to 12.0 GHz

0

10 20

30 40

50 60

10

20

30

40

1.0

1.5

2.0

3.0

4.0

0

2

3

4000

MH<sub>2</sub>

3.5

50 ∟\_\_\_\_\_ 3.5

DC

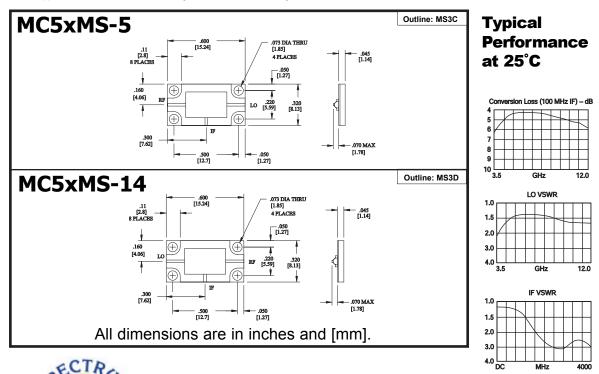
#### **Electrical Specifications** <sup>(1)</sup>:

	Conditions			Specifications			Model MC5xMS-5
Parameter	RF (GHz)	LO (GHz)	IF (MHz)	Min	Typical	Max	Model MC5xMS-14
SSB Conversion loss: <sup>(2) (3)</sup>	5.0-10.0 5.0-10.0 3.5-12.0	5.0-10.0 5.0-10.0 3.5-12.0	DC-500 DC-2000 DC-4000		4.8 dB 5.8 dB 7.0 dB	7.0 dB 8.0 dB 9.5 dB	LO Power
Isolation LO to RF: LO to IF: RF to IF: IF to RF:	3.5-12.0	3.5-12.0 3.5-12.0	DC-2000 DC-4000	30 dB	40 dB 32 dB 15 dB 20 dB 12 dB		3 = +7 dBm 4 = +10 dBm 6 = +14 dBm 7 = +18 dBm
Input 1 dB Compression Point:	3.5-12.0	3.5-12.0	DC-4000		+1 dBm +4 dBm +8 dBm +12 dBm	MC53 MC54 MC56 MC57	
Input Third Order Intercept Point:	3.5-12.0	3.5-12.0	DC-4000		+11 dBm +14 dBm +18 dBm +22 dBm	MC53 MC54 MC56 MC57	
LO Power: <sup>(4)</sup>	3.5-12.0	3.5-12.0	DC-4000		+7 dBm +10 dBm +14 dBm +18 dBm	MC53 MC54 MC56 MC57	

#### 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. See Application note M112, for aid in selecting the outline and for mounting and installation information. 2

3. 4. 5.





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Rev. 5/3/07

4000

12.0 4000

- dB

12.0

12.0

RF-GHz IF-MHz

LO to RF, LO to IF Isolation

LO-R

GHz

RF VSWR

GHz

Relative Conv. Loss vs. IF Freg. - dB

MH<sub>2</sub>

LO-IF