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**Termination Insensitive Mixer,
1 MHz - 3.5 GHz**

Rev. V5

Electrical Specifications¹: $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	RF, LO Ports IF Port	0.001 - 3.5 5 - 1500	GHz MHz	— —	— —	— —
Conversion Loss		5 - 1000 MHz ² 5 - 3000 MHz ³ 1 - 3500 MHz	dB dB dB	— — —	— — —	7 8 10
Isolation	LO to RF	5 - 1000 MHz 1 - 3500 MHz	dB dB	30 20	— —	— —
	LO to IF	5 - 1000 MHz 1 - 3500 MHz	dB dB	30 20	— —	— —
	RF to IF	10 - 500 MHz 1 - 3000 MHz 1 - 3500 MHz	dB dB dB	30 20 18	— — —	— — —
RF Input	1 dB Compression 1 dB Desensitization	— —	dBm dBm	— —	+7 +5	— —
SSB Noise Figure	Within 1 dB of Conversion Loss Max	—	—	—	—	—
Typical Two-Tone IM Ratio	Pin = -10 dBm per tone IF = 60 MHz	10 MHz 500 MHz 3000 MHz	dB dB dB	— — —	55 58 56	— — —
3rd Order Intermodulation Ratio Degradation	@ IF VSWR 3:1	—	dB	—	3	—

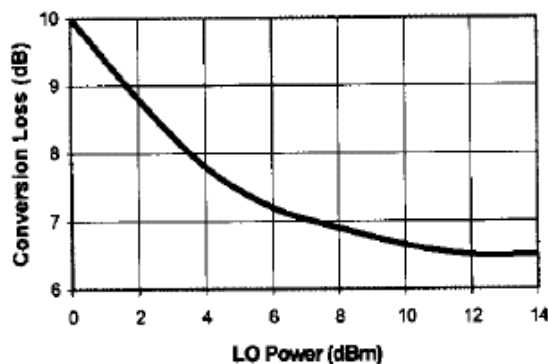
1. All specifications apply when operated at +10 dBm available LO power with 50 Ohm source and load impedance.
2. For IF Frequencies of 5 - 300 MHz and RF of -10 dBm or less.
3. For MDC-169, add 1.0 dB to conversion loss.

Electrical Specifications (MDS-169): $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Frequency: RF, LO Ports = 1 - 3500 MHz, IF Port = 5-1500 MHz

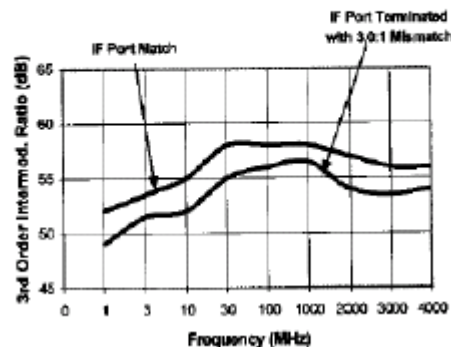
Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Conversion Loss	LO @ +10 dBm IF @ 60 MHz	5 - 1000 MHz 1000 - 3000 MHz 1 - 3500 MHz	dB dB dB	— — —	6.5 7.5 8.0	7.0 9.0 10.0
Isolation	LO to RF	5 - 1000 MHz 1 - 3500 MHz	dB dB	30 20	35 25	— —
	LO to IF	5 - 1000 MHz 1 - 3500 MHz	dB dB	30 20	35 25	— —
	RF to IF	10 - 500 MHz 1 - 3000 MHz 1 - 3500 MHz	dB dB dB	30 20 18	35 25 23	— — —

Typical Performance Curves

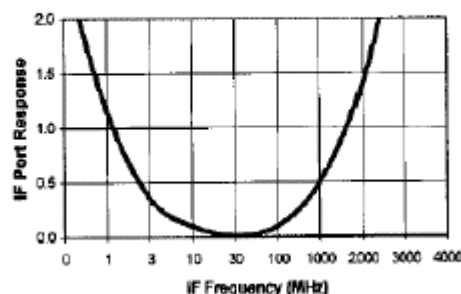
**Conversion Loss vs. LO Power - RF
@ 2000 MHz -10 dBm, IF @ 60 MHz**



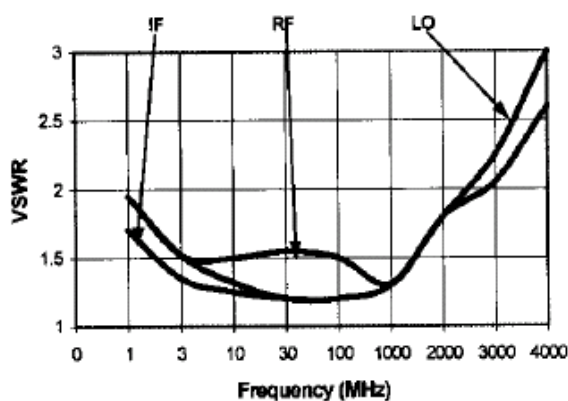
3rd Order IM Ratio - LO @ +10 dBm,



IF Port Response



VSWR



Ordering Information

Part Number	Package
MD-169 PIN	FP-2
MDC-169 SMA	C-7
MDS-169	SF-1