

**Termination-Insensitive Mixer,
0.5 - 9 GHz**

**MDC-164
V3**

Electrical Specifications¹: T_A = -55°C to +85°C

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	RF, LO Ports IF Port	0.5 - 9 10 - 2000	GHz MHz	— —	— —	— —
Conversion Loss ²		1 - 7 GHz 0.5 - 1 GHz 7 - 9 GHz	dB dB dB	— — —	— — —	8.5 10.0 11.0
Isolation	LO to RF	1.5 - 7 GHz 0.5 - 9 GHz	dB dB	17 13	— —	— —
	LO to IF	1.5 - 7 GHz 0.5 - 9 GHz	dB dB	20 17	— —	— —
	RF to IF	0.5 - 9 GHz	dB	17	—	—
RF Input	1 dB Compression 1 dB Desensitization	— —	dBm dBm	— —	+8 +6	— —
SSB Noise Figure	Within 1 dB of Conversion Loss Max.	—	—	—	—	—
3rd Order Input Intercept		2.0 GHz 8.0 GHz	dBm dBm	— —	+15 +17	— —
3rd Order Intercept Degradation	@ IF Termination VSWR 3:1	—	dB	—	1.5	—

1. All specifications apply when operated at +13 dBm available LO power with 50 ohm source and load impedance.
2. For IF frequencies of 10 - 500 MHz and an RF of -10 dBm or lower.
3. Independent of sum frequency match.

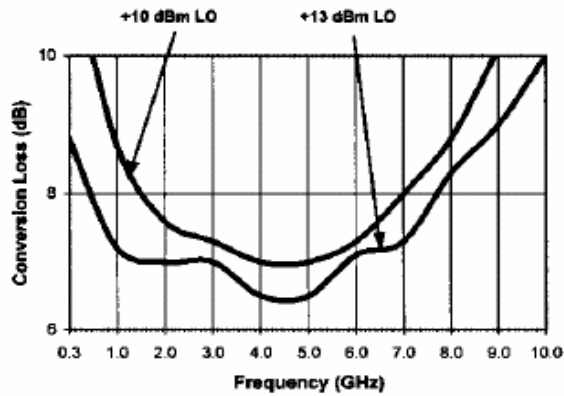
This product contains elements protected by United States Patent Number 4,224,572

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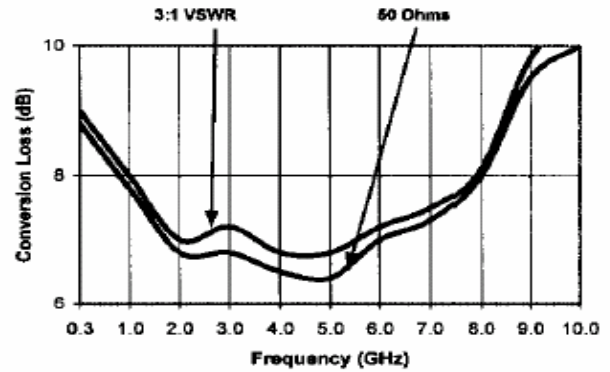
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Typical Performance Curves

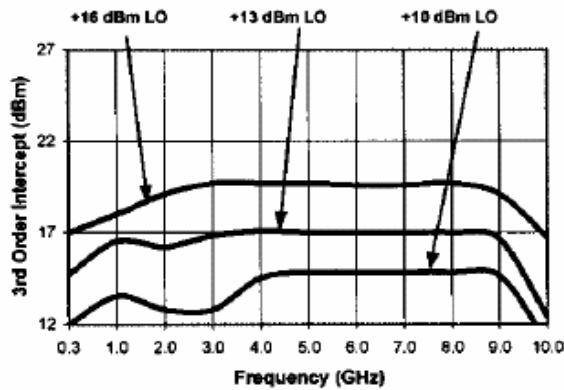
Conversion Loss



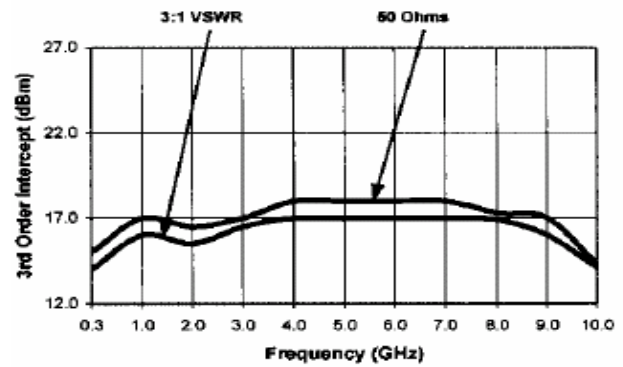
Conversion Loss vs. IF Port Termination³



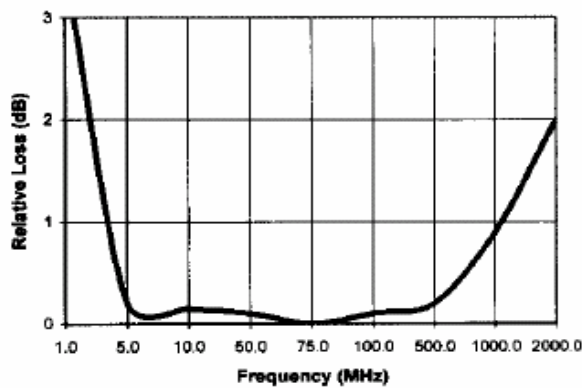
3rd Order Intercept



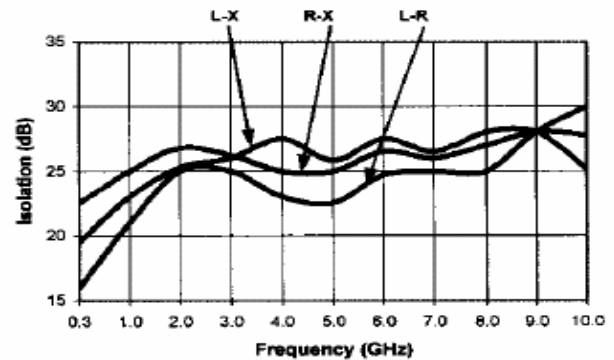
3rd Order Intercept vs. IF Port Termination³



IF Port Response



Isolation



Ordering Information

Part Number	Package
MDC-164 SMA	C-3

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