

High-Performance Double-Balanced Mixer

10 MHz-3 GHz

MD-/MDC-123

- Usable to 4 GHz
 - + 7 dBm Typical Compression Level
 - Excellent Intermodulation Rejection
- Guaranteed Specifications***

(From - 55°C to + 85°C)

Frequency Range	RF, LO Ports	0.01 - 3 GHz	
	IF Port	0.01 - 3 GHz	
Conversion Loss**		8 dB Max†	
Isolation	LO to RF	(10-500 MHz)	25 dB Min
		(500-1000 MHz)	30 dB Min
		(1000-3000 MHz)	25 dB Min
	LO to IF	(10-500 MHz)	20 dB Min
		(500-1000 MHz)	25 dB Min
	RF to IF	(10-500 MHz)	20 dB Min
	(500-1000 MHz)	25 dB Min	
	(1000-3000 MHz)	20 dB Min	

Operating Characteristics

Impedance	50 Ohms Nominal
Maximum Input	
Total Power	600 mW Max @ 25°C Derated to 85°C @ 3.2 mW/°C
IF Port Current	50 mA Max
DC Polarity	Negative
DC Offset	< 7 mV Typical
RF Input	
1 dB Compression	+ 7 dBm Typical
1 dB Desensitization	+ 5 dBm Typical
SSB Noise Figure	Within 1 dB of Conversion Loss Max
Typical Two-Tone IM Ratio (with - 10 dBm input, each input, 25 MHz and 35 MHz IF)	100-2000 MHz ≥ 56 dB
Environmental	See Appendix for MIL-STD-883 screening option.
Pin Configuration	RF; P8, LO; P5, IF; P4. Case and all other pins are ground.

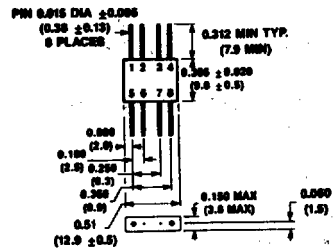
*All specifications apply when operated at +10 to +13 dBm available LO power with 50 ohm source and load impedance.

**Specified for IF frequency of 10 MHz to 2 GHz. See IF Port Bandwidth Graph.
†9.5 dB for MDC-123, 1500-3000 MHz.

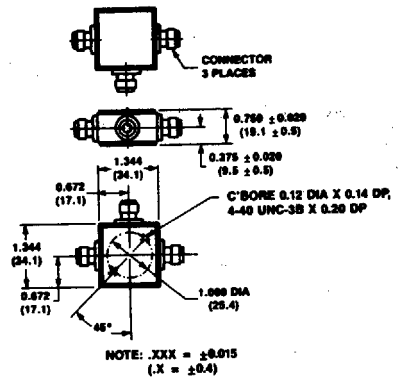
Ordering Information

Model No.	Package
MD-123 PIN	Flatpack
MDC-123 SMA	Connectorized

FP-2



C-7



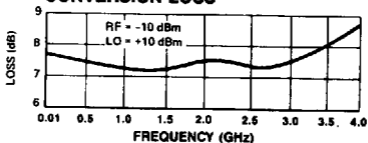
Dimensions in () are in mm.

See Appendix for complete physical dimensions.

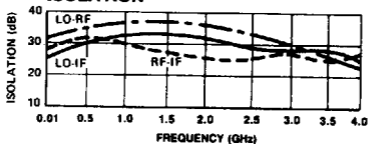
Typical Performance

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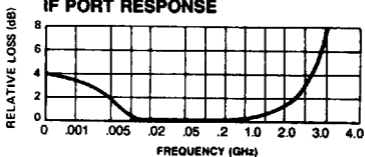
CONVERSION LOSS



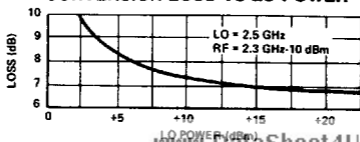
ISOLATION



IF PORT RESPONSE



CONVERSION LOSS VS LO POWER



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