

Double-Balanced Mixer 10-1500 MHz

MD-/MDC-/MDS-149

- Over Two-Decade Frequency Range
- 6 dB Typical Midband Conversion Loss
- 40 dB Typical Midband LO-RF Isolation
- Fully Hermetic Package (MDS-149)

Guaranteed Specifications* (From -55°C to +85°C)

Frequency Range	RF, LO Ports	10-1500 MHz
	IF Port	DC-1500 MHz
Conversion Loss	10-1000 MHz	7.5 dB Max
	1000-1500 MHz	10 dB Max
Isolation	LO to RF	(10-100 MHz) 35 dB Min
		(100-1000 MHz) 30 dB Min
		(1000-1500 MHz) 20 dB Min
	LO to IF	(10-100 MHz) 35 dB Min
		(100-1000 MHz) 20 dB Min
		(1000-1500 MHz) 12 dB Min
	RF to IF	(10-100 MHz) 30 dB Min
		(100-1000 MHz) 18 dB Min
		(1000-1500 MHz) 8 dB Min

Operating Characteristics

Impedance	50 Ohms Nominal	
Maximum Input	Total Power	300 mW Max
		Derated to 85°C @ 3.2 mW/°C
	IF Port Current	50 mA Max
DC Polarity	Negative	
DC Offset	≤ 4 mV Typical	
RF Input	1 dB Compression	0 dBm Typ
	1 dB Desensitization	-2.0 dBm Typ
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)	100-500 MHz	≥ 48 dB
	500-1000 MHz	≥ 43 dB
	1000-1500 MHz	≥ 35 dB

Environmental

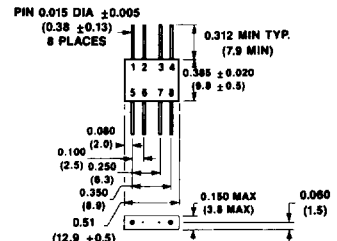
See Appendix for MIL-STD-883 screening option.

*All specifications apply when operated at +7 dBm available LO power with 50 ohm source and load impedance.

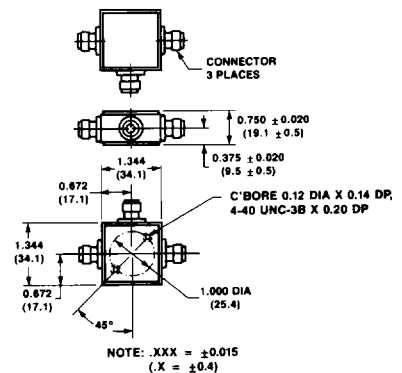
Ordering Information

Model No.	Package
MD-149 PIN	Flatpack
MDC-149 SMA	Connectorized
MDS-149 PIN	Surface Mount

FP-2

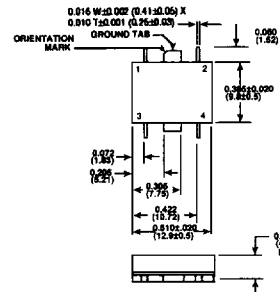


C-7



NOTE: .XXX = ±0.015
(.X = ±0.4)

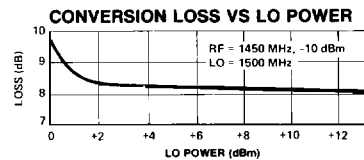
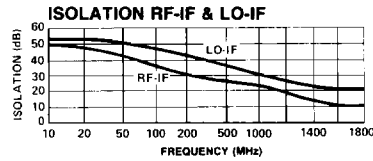
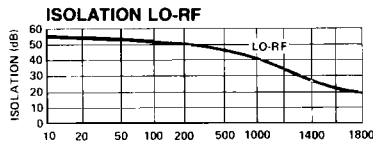
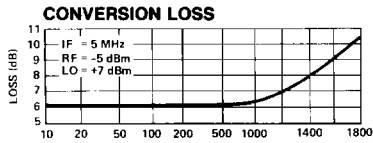
SF-1



Dimensions in () are in mm.

See Appendix for complete physical dimensions.

Typical Performance



Pin Configuration

MD-149

Pin Number	Description
1	Ground
2	Ground
3	Ground
4	IF
5	LO
6	Ground
7	Ground
8	RF

MDS-149

Pin Number	Description
1	Ground
2	IF
3	LO
4	RF

Specifications Subject to Change Without Notice.