



# Double-Balanced Mixers

## 500 kHz-500 MHz

MD-124/140

- Usable Down to 200 kHz
  - 6.5 dB Typical Conversion Loss
  - Available in Flatpack (MD-124) and Connectorized (MD-140) Versions
- ### Guaranteed Specifications\*

(From -55°C to +85°C)

<b>Frequency Range</b>	RF, LO Ports	0.5-500 MHz	
	IF Port	DC-500 MHz	
<b>Conversion Loss</b>		7 dB Max	
<b>Isolation</b>	LO to RF	(0.5-10 MHz)	35 dB Min
		(10-200 MHz)	30 dB Min
		(200-500 MHz)	25 dB Min
LO to IF	(0.5-10 MHz)	30 dB Min	
	(10-200 MHz)	25 dB Min	
	(200-500 MHz)	20 dB Min	
RF to IF	(0.5-10 MHz)	25 dB Min	
	(10-200 MHz)	15 dB Min	
	(200-500 MHz)	15 dB Min	

### Operating Characteristics

<b>Impedance</b>	50 Ohms Nominal	
<b>Maximum Input</b>	Total Power	300 mW Max @ 25°C
		Derated to 85°C @ 3.2 mW/°C
IF Port Current	50 mA Max	
<b>DC Polarity</b>	Negative	
<b>DC Offset</b>	<3 mV Typical	
<b>RF Input</b>	1 dB Compression	+2 dBm Typical
	1 dB Desensitization	-2 dBm Typical
<b>SSB Noise Figure</b>	Within 1 dB of Conversion Loss Max	
<b>Typical Two-Tone IM Ratio (with -10 dBm input, each input, 25 MHz and 35 MHz IF)</b>	100-400 MHz	≥50 dB
	400-500 MHz	≥40 dB
<b>Environmental</b>	See Appendix for MIL-STD-883 screening option.	
<b>Pin Configuration</b>	RF; P8, LO; P5, IF; P4.	
	Case and all other pins are ground.	

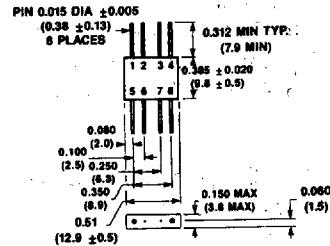
\*All specifications apply when operated at +7 dBm available LO power with 50 ohm source and load impedance.

### Ordering Information

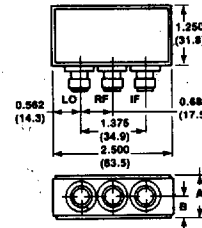
Model No.	Package
MD-124 PIN	Flatpack
MD-140 SMA	Connectorized
MD-140 BNC	Connectorized

Specifications Subject to Change Without Notice.

FP-2



C-9



Dimensions in ( ) are in mm.

See Appendix for complete physical dimensions.

### Typical Performance

