

**Double-Balanced Mixer,  
10 MHz - 3 GHz**

**MD-123  
V3**

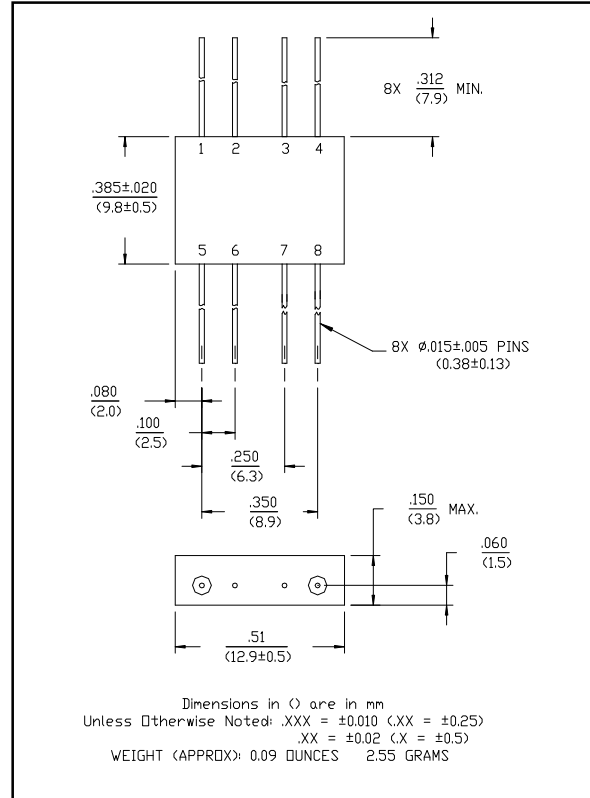
**Features**

- Usable to 4 GHz
- Impedance: 50 Ohms Nominal
- Maximum Input Power: 600 mW max. @ 25°C, Derated linearly to 85°C @ 3.2 mW/°C
- IF Port Current: 50 mA Max.
- MIL-STD Screening Available

**Description**

Transformers convert the LO and RF paths to balanced lines connecting to a low barrier, Schottky diode ring quad. These transformers help provide excellent isolation between ports.

**FP-2**



**Pin Configuration**

Pin No.	Function	Pin No.	Function
1	GND	5	LO
2	GND	6	GND
3	GND	7	GND
4	IF	8	RF

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**Electrical Specifications<sup>1</sup>: T<sub>A</sub> = -55°C to +85°C**

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	RF, LO Ports IF Port	0.01 - 3 GHz	GHz	—	—	—
		0.01 - 3 GHz	GHz	—	—	—
Conversion Loss			dB	—	—	8.0
Isolation	LO to RF	10 - 500 MHz	dB	25	—	—
		500 - 1000 MHz	dB	30	—	—
		1000 - 3000 MHz	dB	25	—	—
	LO to IF	10 - 500 MHz	dB	20	—	—
		500 - 1000 MHz	dB	25	—	—
		1000 - 3000 MHz	dB	25	—	—
RF to IF	10 - 500 MHz	dB	20	—	—	
	500 - 1000 MHz	dB	25	—	—	
	1000 - 3000 MHz	dB	20	—	—	
DC Polarity	Negative	—	—	—	—	—
DC Offset			mV	—	≤ 7	—
RF Input	1 dB Compression 1 dB Desensitization		dBm	—	+7	—
			dBm	—	+5	—
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	dB	—	>56	—

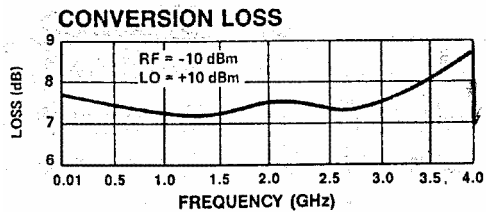
1. All specifications apply when operated at +10 to +13 dBm available LO power with 50 ohm source and load impedance.
2. Conversion Loss is specified for IF frequency of 10 MHz to 2 GHz. See IF port bandwidth graph.

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**Typical Performance Curves**

**Ordering Information**



Part Number	Package
MD-123 PIN	FP-2

