

# Double-Balanced Mixer, 10 MHz - 3 GHz

Rev. V3

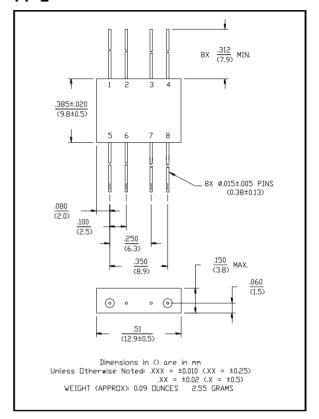
#### **Features**

- 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>: $T_A = -55$ °C to +85°C

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

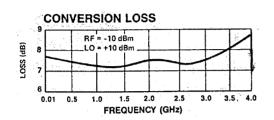
All specifications apply when operated at +10 to +13 dBm available LO power with 50 ohm source and load impedance.
Conversion Loss is specified for IF frequency of 10 MHz to 2 GHz. See IF port bandwidth graph.

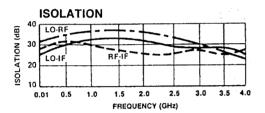


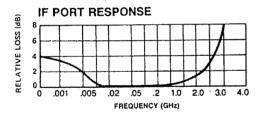
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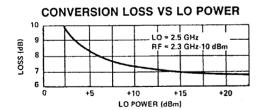
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## **Typical Performance Curves**









#### **Ordering Information**

Part Number	Package		
MD-123 PIN	FP-2		

# **MD-123**



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