MD-123

Double-Balanced Mixer, 10 MHz - 3 GHz

Rev. V3

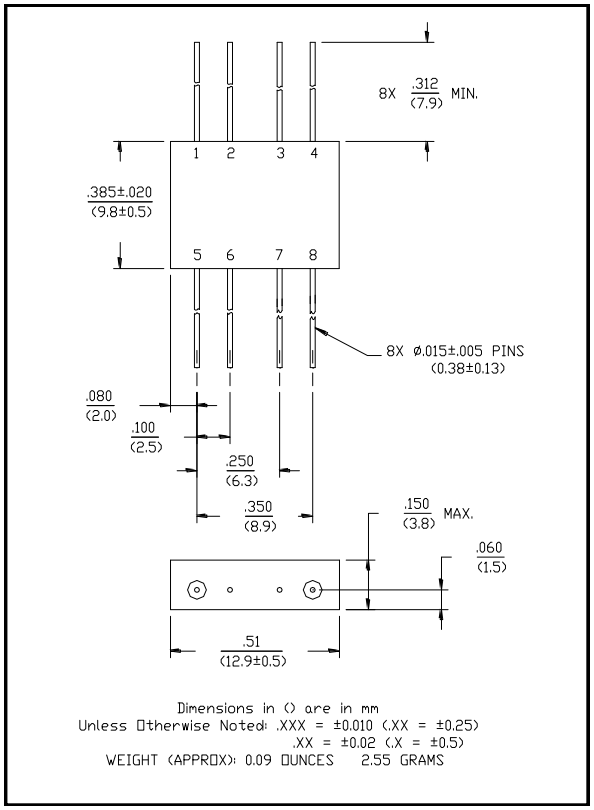
Features

- 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[1]: T_A = -55°C to +85°C

Parameter	Test Conditions	Frequency	Units	Min	Typ	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	—

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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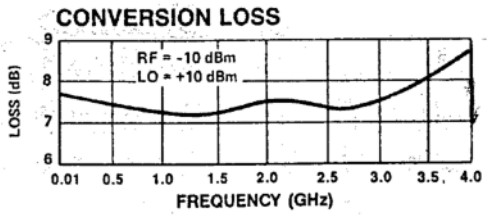
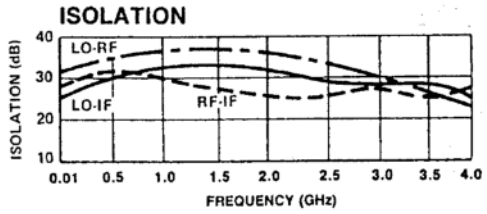
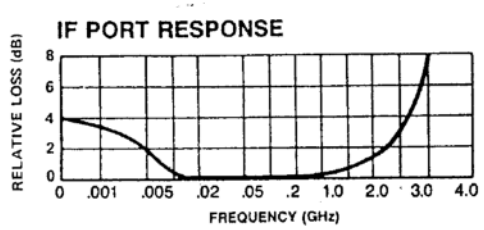
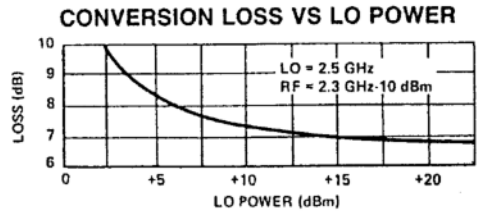
Typical Performance Curves









Ordering Information

Part Number	Package
MD-123 PIN	FP-2

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