

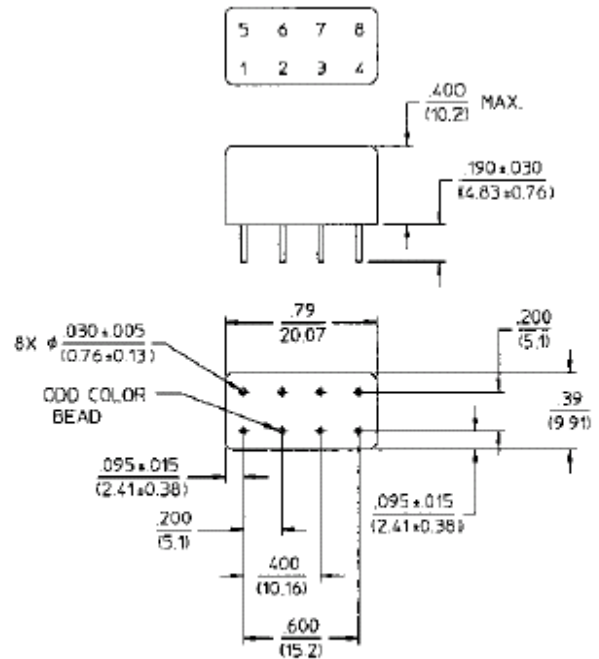
## Features

- Low Cost
- Conversion Loss: 7 dB Typical
- Impedance: 50 Ohms Nominal
- Maximum Input Power: 400 mW max. @ 25°C, Derated linearly to 85°C @ 3.2 mW/°C
- IF Port Current: 50 mA Max.
- MIL-STD-883 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. Conversion Loss is low. The direct connection of the IF port to the diode quad allows these mixers to be used as phase detectors and bi-phase modulators.

## RH-3



Dimensions in ( ) are in mm  
 Unless Otherwise Noted: .XXX = ±0.010 (XX = ±0.25)  
 .XX = ±0.02 (X = ±0.5)  
 WEIGHT (APPROX): 0.23 OUNCES 6.5 GRAMS

## Pin Configuration

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

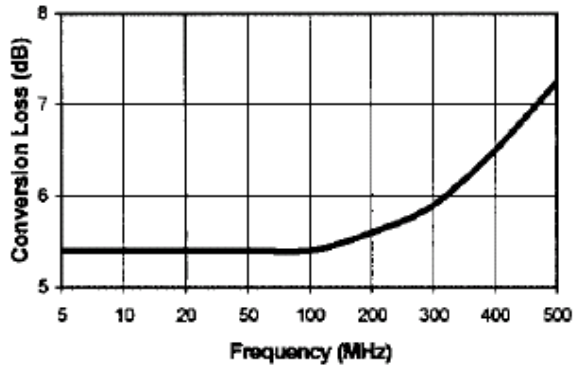
**Electrical Specifications<sup>1</sup>: T<sub>A</sub> = -55°C to +85°C**

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	RF, LO Ports IF Port	5 - 500	MHz	—	—	—
		DC - 500	MHz	—	—	—
Conversion Loss		5 - 150 MHz	dB	—	—	7.0
		150 - 500 MHz	dB	—	—	9.0
Isolation	LO to RF	5 - 150 MHz	dB	40	—	—
		150 - 500 MHz	dB	35	—	—
	LO to IF	5 - 150 MHz	dB	35	—	—
		150 - 500 MHz	dB	25	—	—
	RF to IF	5 - 150 MHz	dB	25	—	—
		150 - 500 MHz	dB	20	—	—
DC Polarity	Negative	—	—	—	—	—
DC Offset			mV	—	≤1	—
RF Input	1 dB Compression 1 dB Desensitization		dBm	—	+2.5	—
			dBm	—	0	—
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 - 350 MHz	dB	—	≥55	—
		350 - 500 MHz	dB	—	≥40	—

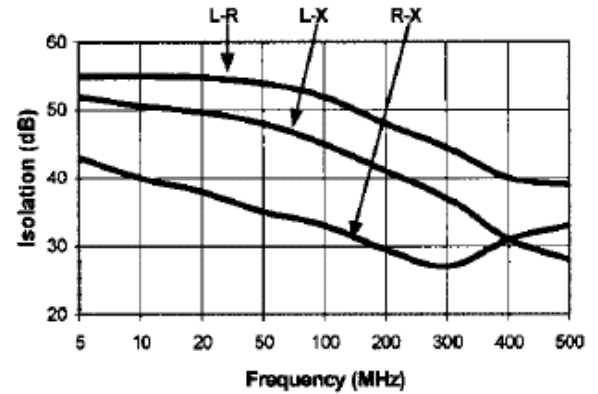
1. All specifications apply when operated at +7 dBm available LO power with 50 ohm source and load impedance.

## Typical Performance Curves

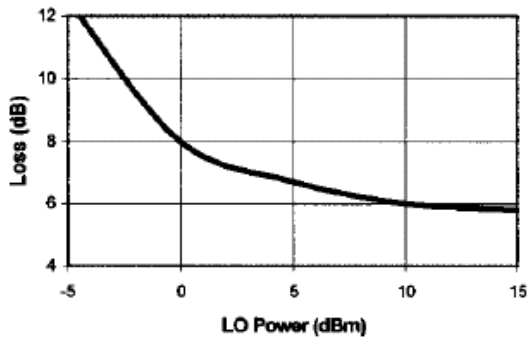
**Conversion Loss (LO = +7 dBm,  
RF = -5 dBm, IF = 5 MHz)**



**Isolation (Input = +7 dBm)**



**Conversion Loss vs. LO Power  
(LO = 200 MHz, RF = 140 MHz @ -10  
dBm, IF = 60 MHz)**



### Ordering Information

Part Number	Package
MD-108 PIN	RH-3

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