

Electronics

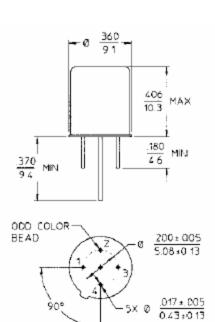
TO-5 Double-Balanced Mixer, 5 - 500 MHz

Features

- Convenient Microstrip or Stripline Mounting
- Low Conversion Loss: 7 dB
- Impedance: 50 Ohms Nominal
- Maximum Input Power: 300 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.



Lower dimensions are in mm Unless otherwise noted. XXX = ±010 LXX = ±0.251 .XX = ±02 (X = ±0.5) .Weight (Approx.) 0.11 Ounces - 3 Grams

Pin Configuration

TO-5-2

Pin No.	Function	Pin No.	Function
1	LO	3	RF
2	IF	4	GND

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TO-5 Double-Balanced Mixer, 5 - 500 MHz

MAC-51 V3

Electrical Specifications¹: $T_A = -55^{\circ}C$ to +85°C

Parameter	Test Conditions	Frequency	Units	Min	Тур	Мах
Frequency Range	RF, LO Ports IF Port	5 - 500 DC - 500	MHz MHz	_	_	—
Conversion Loss		_	dB	—	—	7.0
Isolation	LO to RF	5 - 50 MHz 50 - 500 MHz	dB dB	35 25	_	_
	LO to IF	5 - 50 MHz 50 - 500 MHz	dB dB	35 25	_	_
	RF to IF	5 - 50 MHz 50 - 500 MHz	dB dB	20 20	_	
DC Polarity	Negative	_	_	_	_	—
DC Offset			mV	—	<u><</u> 3	—
RF Input ²	1 dB Compression 1 dB Desensitization		dBm dBm		+2 -1.5	
SSB Noise Figure	Within 1 dB of Conversion Loss Max.		_	—	—	_

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

2. Measured at 100 MHz

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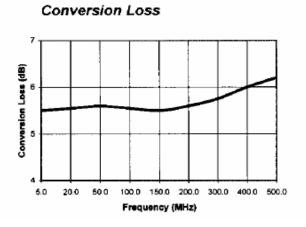
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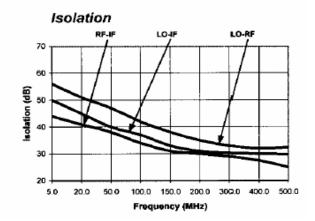




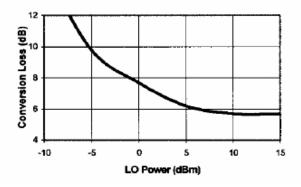
TO-5 Double-Balanced Mixer, 5 - 500 MHz MAC-51 V3

Typical Performance Curves





Conversion Loss vs. LO Power



Ordering Information

Part Number	Package		
MAC-51 PIN	TO-5-2		

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