

# Flatpack Double-Balanced Mixer, 0.6 - 3 GHz

Rev. V3

#### **Features**

Noise Figure: 6.5 Typical
LO-RF Isolation: 30 dB Typical
Impedance: 50 Ohms Nominal

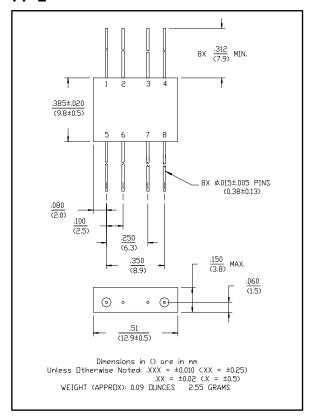
 Maximum Input Power: 300 mW max. @ 25°C, Derated linearly to 85°C @ 3.2 mW/°C

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.

#### 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

Commitment to produce in volume is not guaranteed.

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 Visit www.macomtech.com for additional data sheets and product information.



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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	600 - 3000 DC - 3000	MHz MHz	_	_	_
Conversion Loss and SSB Noise Figure		800 - 2000 MHz 600 - 3000 MHz	dB dB	_	_	8.0 9.0
Isolation	LO to RF	600 – 2000 MHz 2000 - 3000 MHz	dB dB	25 20	_	_
	LO to IF	600 – 2000 MHz 2000 - 3000 MHz	dB dB	20 17	_	
DC Polarity	Negative	_	_	_	_	_
DC Offset			mV	_	<u>&lt;</u> 6	_
RF Input	1 dB Compression 1 dB Desensitization		dBm dBm	_	0 -4	_
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	800 MHz 1500 MHz 2500 MHz	dB dB dB		44 40 40	

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



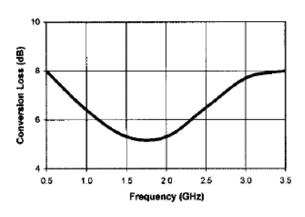
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3.Q

## **Typical Performance Curves**

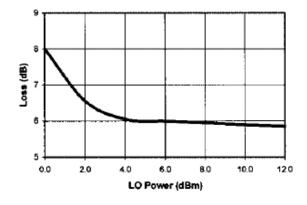
#### Conversion Loss



# 

Frequency (GHz)

#### Conversion Loss vs. LO Power



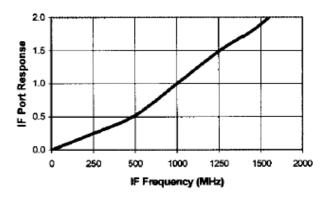
#### **Ordering Information**

0.5

Isolation

Part Number	Package		
MD-156 PIN	FP-2		

## IF Port Response



PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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