

Double-Balanced Mixer

Rev. V3

Features

- LO 2 TO 6 GHz
- RF 3.7 TO 4.2 GHz
- IF DC TO 2 GHz
- LO DRIVE: +7 dBm (NOMINAL) HIGH ISOLATION: 40 dB (TYP.)

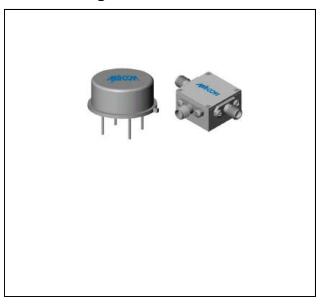
Description

The M8H-3 is a double balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric and ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in manual, semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

Part Number	Package
M8H-3	TO-8
M8HC-3	SMA Connectorized

Product Image



Electrical Specifications: $Z_0 = 50\Omega$ Lo = +7 dBm (Downconverter Application only)

Parameter	Parameter Test Conditions		Typical	Guaranteed	
raiameter rest conditions		Units	25°C	0º to 50ºC	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR=3.7 to 4.2 GHz, fL=2 to 6 GHz, fI=0.03 to 2 GHz	dB	5.0	7.0	7.5
Isolation, L to R (min)	fL = 2 to 4 GHz fL = 4 to 6 GHz	dB dB	42 37	32 25	30 23
Isolation, L to I (min)	fL = 2 to 6 GHz	dB	21	16	14
1 dB Conversion Compression	fL @ +7 dBm	dBm	+0		
Input IP3		dBm	+13		

Commitment to produce in volume is not guaranteed.

[•] India Tel: +91.80.4155721

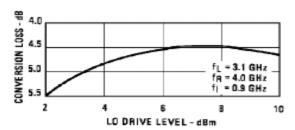


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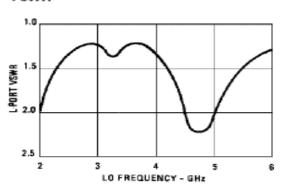
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Typical Performance Curves

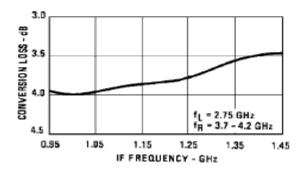
Conversion Loss

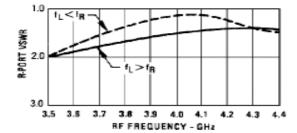


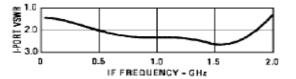
VSWR



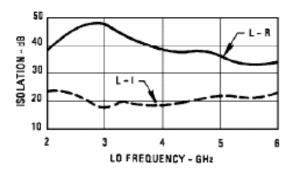
Conversion Loss







Isolation



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.

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• North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400

• India Tel: +91.80.4155721 Visit www.macomtech.com for additional data sheets and product information.

• China Tel: +86.21.2407.1588



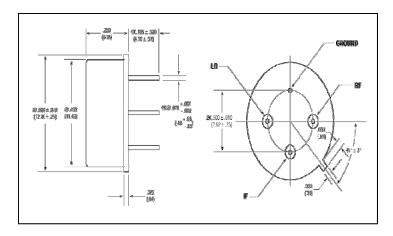
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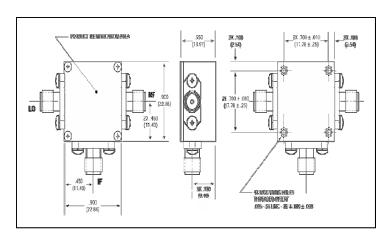
Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54 C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+23 dBm max @ +25°C +17 dBm max @ +100°C		
Peak Input Current	50 mA DC		

Outline Drawing: TO-8



Outline Drawing: SMA Connectorized



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