

Double-Balanced Mixer

Rev. V2

Features

- LO 2 TO 6 GHz
- RF 2.4 TO 6 GHz
- IF 0 TO 2000 MHz
- LO DRIVE +7 dBm (nominal)
- HIGH ISOLATION 40 dB (TYP.)

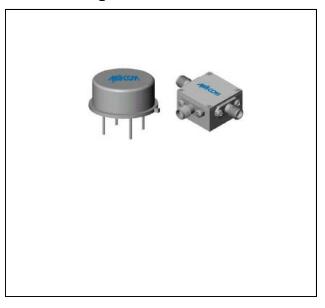
Description

The M8H-7 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-7	TO-8	
M8HC-7	SMA Connectorized	

Product Image



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

Parameter Test Conditions		Units	Typical	Guaranteed	
r di dilletei	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 fR=2.4 to 6 GHz, fL=2 to 6 GHz, fI=0.03 to 2 GHz	dB dB	5.0 7.0	7.0 9.0	7.5 9.5
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 du

ined herein without notice.

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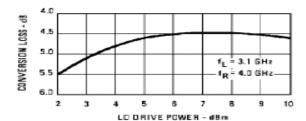


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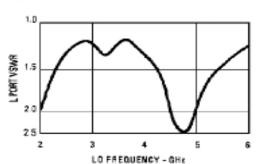
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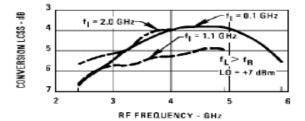
Typical Performance Curves

Conversion Loss

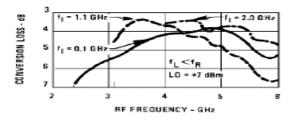


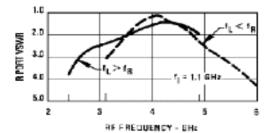
VSWR

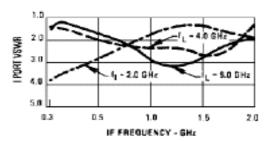




Conversion Loss

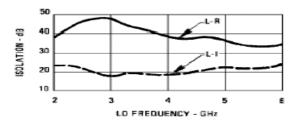






Isolation

2



ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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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 one of the transition of a gailable. Commitment to produce in volume is not guaranteed.

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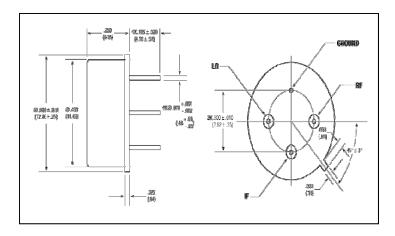
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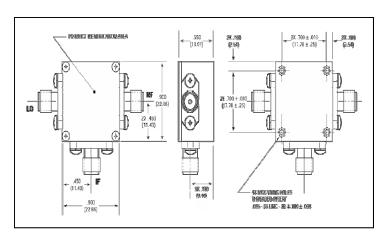
Absolute Maximum Ratings

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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