M8H-3 / M8HC-3

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

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

Deremeter	Test Conditions	Unito	Typical	Guaranteed	
Parameter Test Conditions		Units	25ºC	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			+0		
Input IP3		dBm	+13		

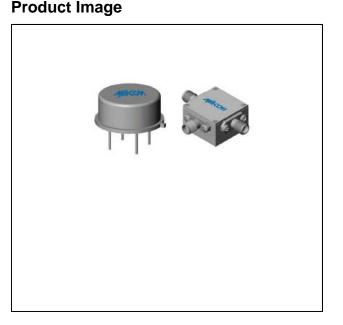
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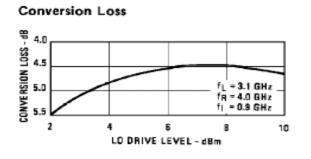
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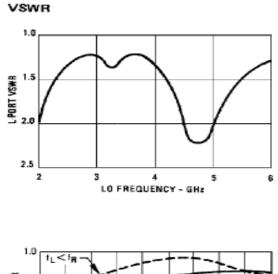
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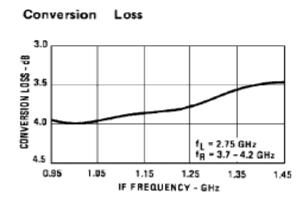


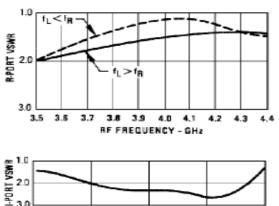
Rev. V3

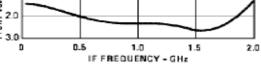
Typical Performance Curves



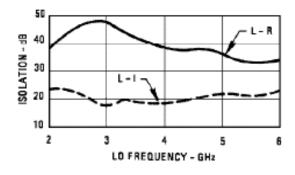








Isolation



2

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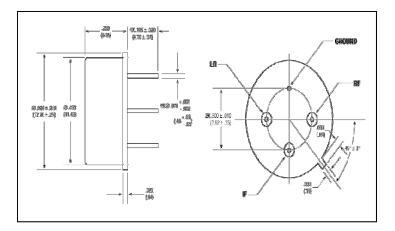
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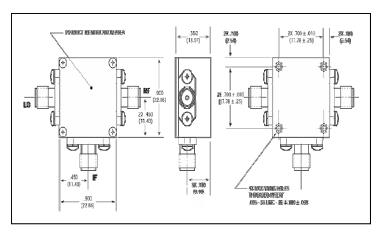
Absolute Maximum Ratings

Parameter	Parameter Absolute Maximum	
Operating Temperature	-54 C to +100°C	
Storage Temperature	-65°C to +100°C	
Peak Input Power	+23 dBm max @ +25⁰C +17 dBm max @ +100⁰C	
Peak Input Current	50 mA DC	

Outline Drawing: TO-8



Outline Drawing: SMA Connectorized



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