M8H-7 / M8HC-7

Double-Balanced Mixer

Rev. V2

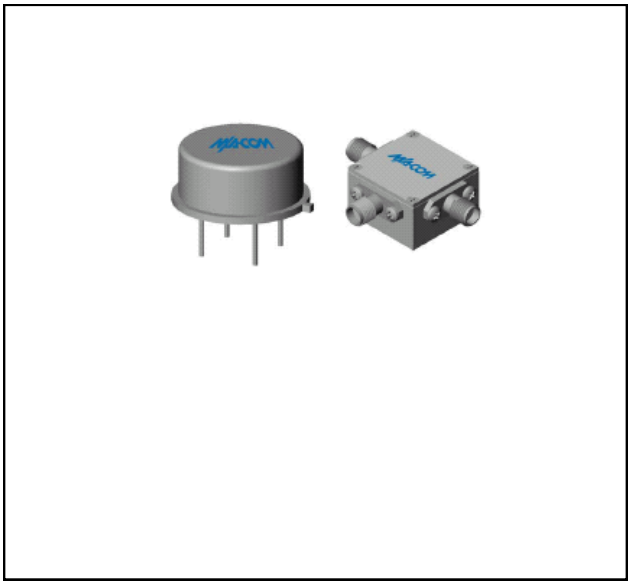
Features

- 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.

Product Image



Ordering Information

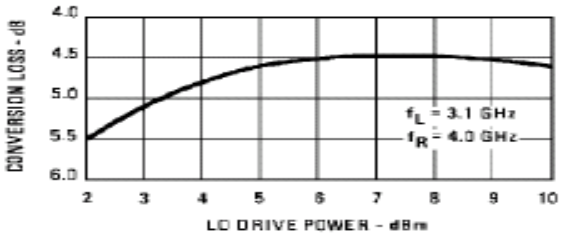
Part Number	Package
M8H-7	TO-8
M8HC-7	SMA Connectorized

Electrical Specifications: Z_0 = 50Ω Lo = +7 dBm (Downconverter Application only)

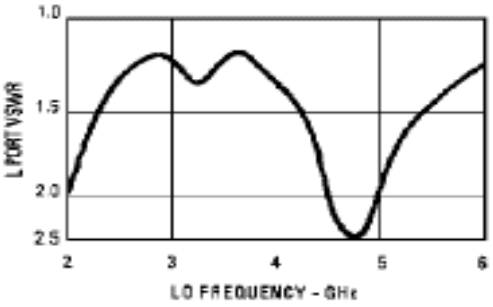
Parameter	Test Conditions	Units	Typical	Guaranteed	
			25ºC	0º to 50ºC	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR=3.7 to 4.2 GHz, fL=2 to 6 GHz, fI=0.03 to 2 GHz fR=2.4 to 6 GHz, fL=2 to 6 GHz, fI=0.03 to 2 GHz	dB dB	5.0 7.0	7.0 9.0	7.5 9.5
Isolation, L to R (min)	fL = 2 to 4 GHz fL = 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		

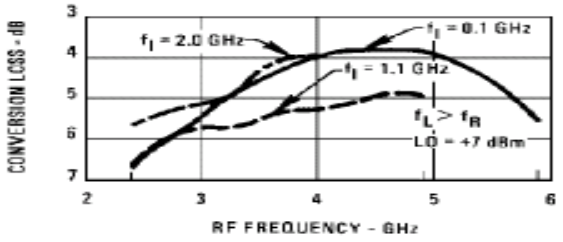
Typical Performance Curves

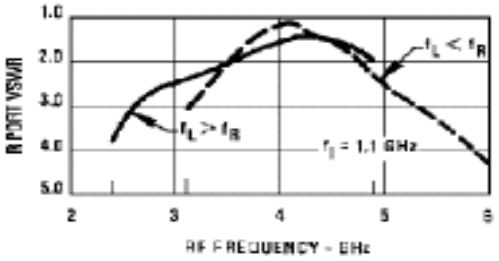
Conversion Loss



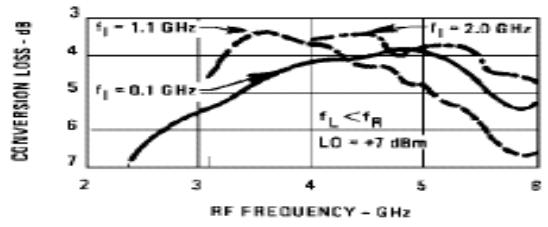
VSWR

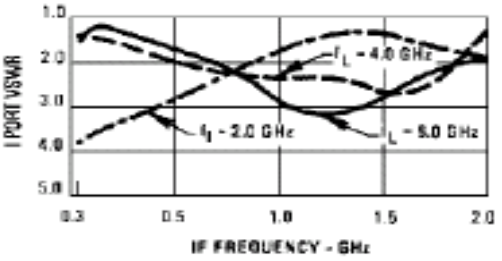




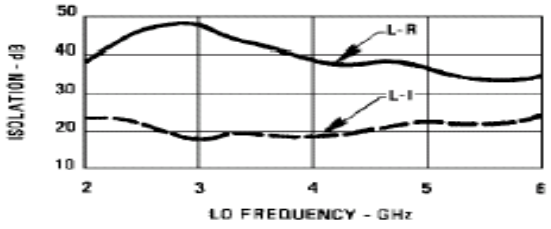


Conversion Loss





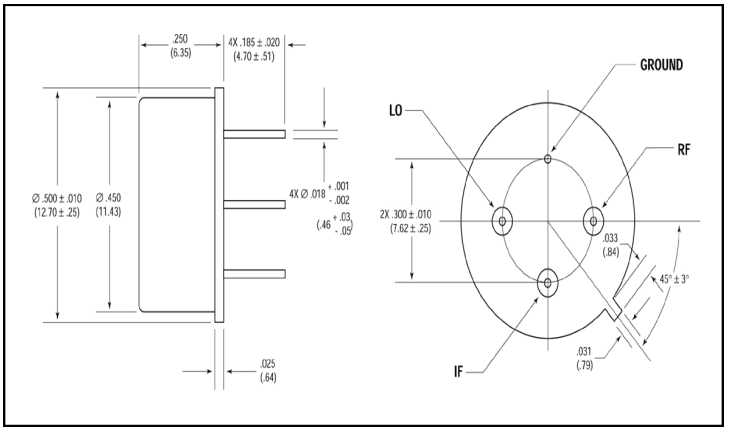
Isolation



Absolute Maximum Ratings

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

Outline Drawing: TO-8



Outline Drawing: SMA Connectorized