M88H / M88HC

Triple-Balanced Mixer



Rev. V2

Features

- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 2 TO 8 GHz
- LO DRIVE +21 dBm (nominal)
- WIDE BANDWIDTH
- HIGH THIRD-ORDER I.P. +24 dBm (TYP.)

Description

M88H is a triple balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric baluns to attain excellent performance. The use of high temperature solder 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	
M88H	Minpac	
M88HC	SMA Connectorized	

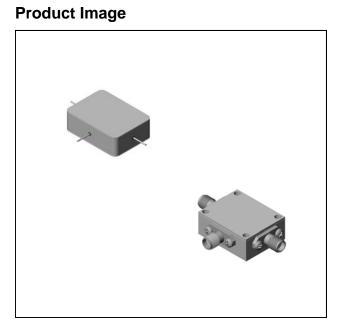
Electrical Specifications: $Z_0 = 50\Omega$ Lo = +21 dBm (Downconverter Application only)

Parameter	Test Conditions	Unito	Typical	Guaranteed	
Parameter Test Conditions		Units		+25⁰C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 2 to 10 GHz, fL = 2 to 18 GHz, fI = 2 to 8 GHz fR = 10 to 18 GHz, fL = 2 to 18 GHz, fI = 2 to 8 GHz	dB dB	7.5 8.0	10.0 10.5	10.3 10.8
Isolation, L to R (min)	fL = 2 to 18 GHz	dB	28	15	14
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	32	17	16
1 dB Conversion Comp.	fL = +21 dBm	dBm	+17		
Input IP3	fR1 = 6 GHz at 0 dBm, fR2 = 6.01 GHz at 0 dBm, fL = 8 GHz at +21 dBm fR1 = 14 GHz at 0 dBm, fR2 = 14.01 GHz at 0 dBm, fL =10 GHz at +21 dBm	dBm dBm	+26 +24		

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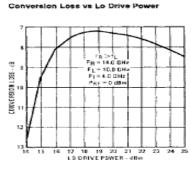
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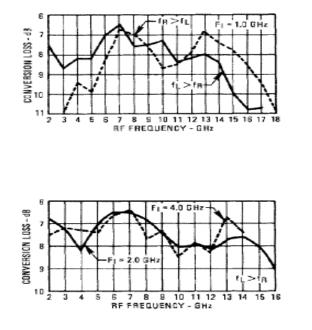
Rev. V2

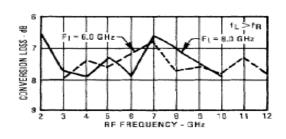
Typical Performance Curves



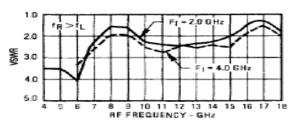
Drive Level: The maximum recom-mended drive level is +24 dBm.

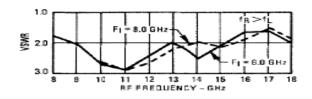
Conversion Loss vs Input Frequency Lo @ + 21 dBm

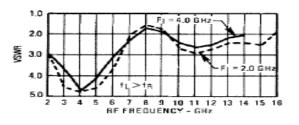


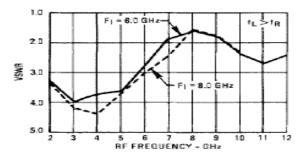


R-Port VSWR Lo @ + 21 dBm









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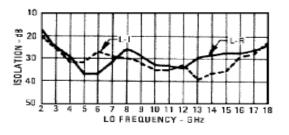


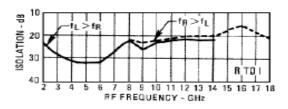
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Absolute Maximum Ratings

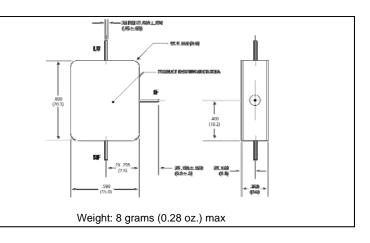
Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+27 dBm max @ +25⁰C +24 dBm max @ +100⁰C		
Peak Input Current	100 mA DC		

Isolation vs Frequency

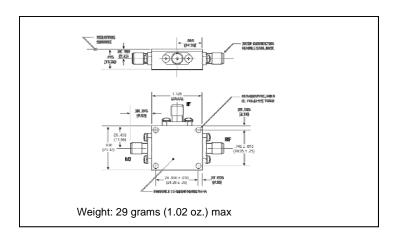




Outline Drawing: Minpac *



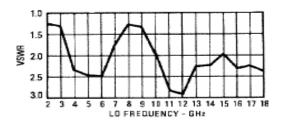
Outline Drawing: SMA Connectorized *



* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

L-Port VSWR @ + 21 dBm

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