

Triple-Balanced Mixer

Rev. V3

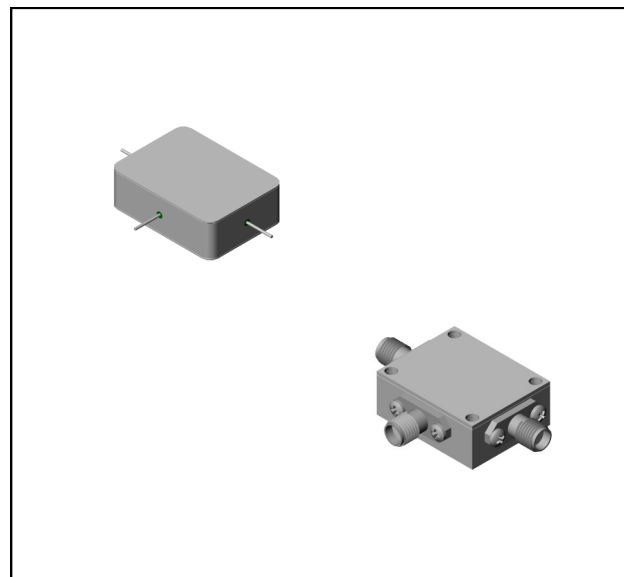
Features

- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 1 TO 8 GHz
- LO DRIVE: +13 dBm (NOMINAL)
- WIDE BANDWIDTH

Description

M88 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.

Product Image



Ordering Information

Part Number	Package
M88	Minpac
M88C	SMA Connectorized

Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +13$ dBm (Downconverter Application only)

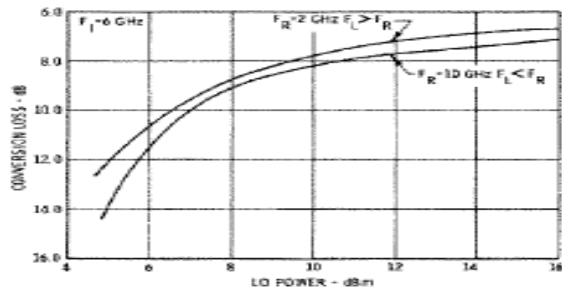
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 2 to 10 GHz, fL = 2 to 18 GHz, fI = 1 to 8 GHz fR = 10 to 18 GHz, fL = 10 to 18 GHz, fI = 2 to 8 GHz fR = 10 to 18 GHz, fL = 2 to 10 GHz, fI = 2 to 8 GHz	dB	7.5	10.0	10.5
		dB	8.0	10.5	11.0
		dB	8.0	11.0	11.5
Isolation, L to R (min)	fL = 2 to 18 GHz	dB	28	15	13
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	32	16	14
1 dB Conversion Comp.	fL = +13 dBm	dBm	+7		
Input IP3	fR1 = 6 GHz at -3 dBm, fR2 = 6.01 GHz at -3 dBm, fL = 10 GHz at +13 dBm fR1 = 15 GHz at -3 dBm, fR2 = 15.01 GHz at -3 dBm, fL = 18 GHz at +13 dBm	dBm	+18.5		
		dBm	+22		

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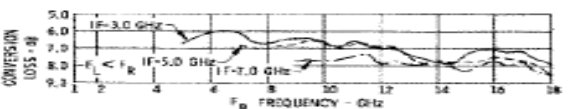
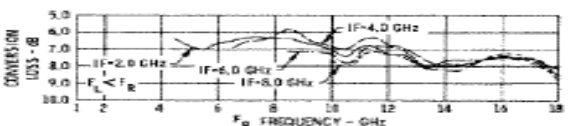
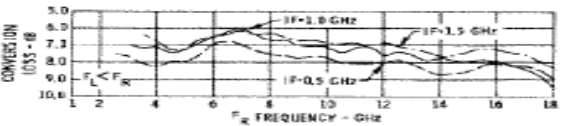
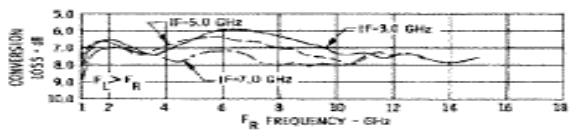
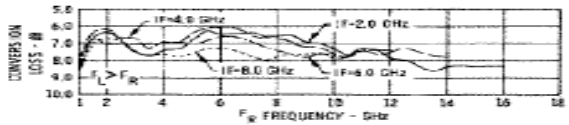
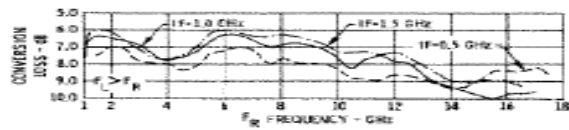
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Typical Performance Curves

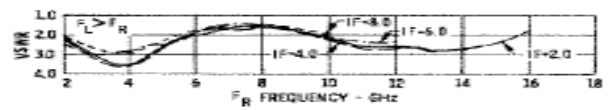
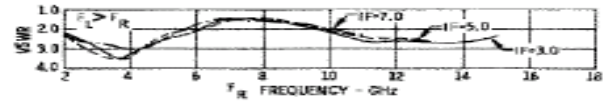
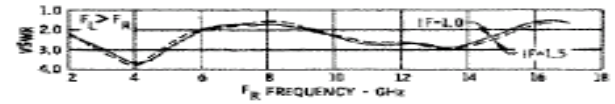
Conversion Loss vs. Drive Power



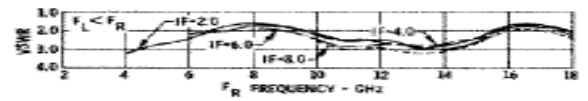
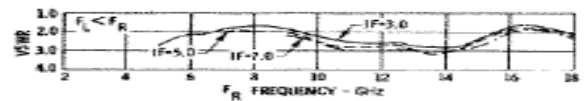
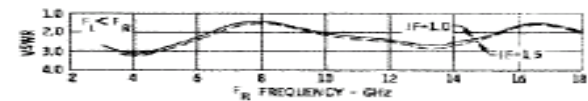
Conversion Loss vs. Frequency, LO @ +13 dBm



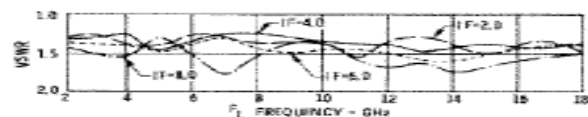
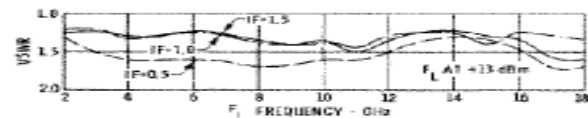
R-Port VSWR LO @ +13 dBm



R-Port VSWR LO @ +13 dBm



I-Port VSWR vs. Frequency LO @ +13 dBm



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Outline Drawing: Minpac *

[illegible]

A line graph showing Conversion Loss (dB) on the y-axis (inverted scale from 5.0 at the top to 10.0 at the bottom) versus Frequency (GHz) on the x-axis (from 1 to 18 GHz). Three curves are plotted for different temperatures: 25°C (solid line), 75°C (dashed line), and 100°C (dotted line). The curves show a general downward trend in conversion loss as frequency increases, with some local maxima and minima. The 100°C curve is consistently the highest (indicating the lowest conversion loss), while the 25°C curve is the lowest (indicating the highest conversion loss). The curves are labeled with $f_L = 2 \text{ GHz}$ and $f_L > f_R$.

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

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