M88 / M88C



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

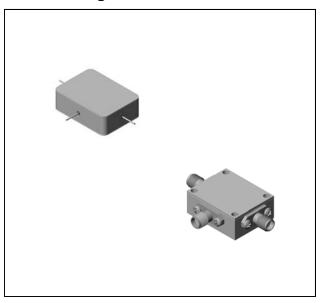
Description

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.

Ordering Information

Part Number	Package	
M88	Minpac	
M88C	SMA Connectorized	

Product Image



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

Donomotor	Tank Cara distance	Units	Typical	Guaranteed	
Parameter	Test Conditions			+25°C	-54º to +85ºC
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 dB dB	7.5 8.0 8.0	10.0 10.5 11.0	10.5 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 dBm	+18.5 +22		

Commitment to produce in volume is not guaranteed.

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Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available.

Visit www.macomtech.com for additional data sheets and product information.

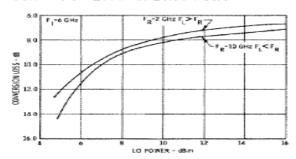


Triple-Balanced Mixer

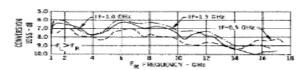
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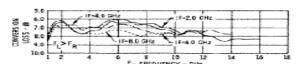
Typical Performance Curves

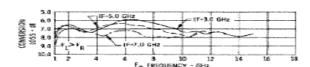
Conversion Loss vs. Drive Power

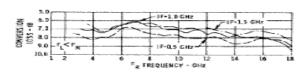


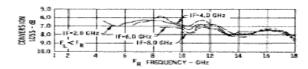
Conversion Loss vs. Frequency, LO @ +13 dBm

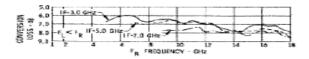






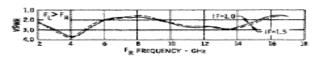


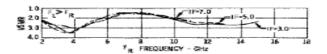


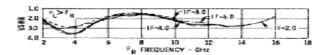


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R-Port VSWR LO@ + 13 dBm

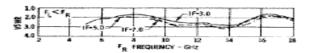






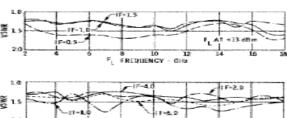
R-Port VSWR LO@ +13 dBm







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



- EREQUINCY GHz
- 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.
- 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/or test data may be available. Commitment to produce in volume is not guaranteed.
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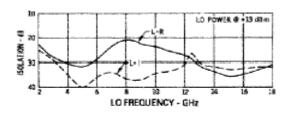
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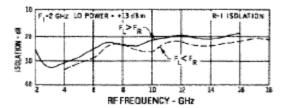
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Absolute Maximum Ratings

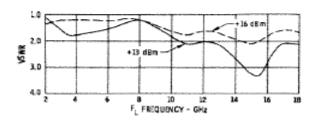
Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+26 dBm max @ +25°C +23 dBm max @ +100°C		
Peak Input Current	100 mA DC		

Isolation vs Frequency



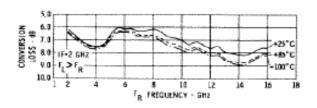


L-Port VSWR

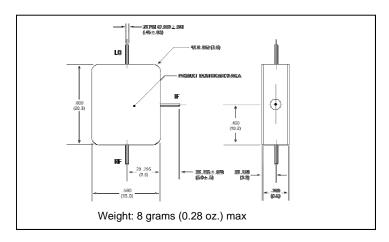


Conversion Loss vs. Frequency & Temperature LO @ +13 dBm

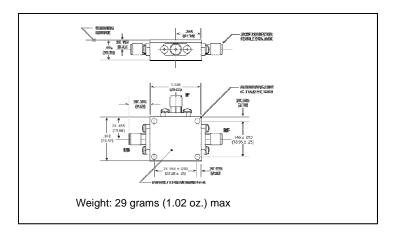
Commitment to produce in volume is not guaranteed.



Outline Drawing: Minpac *



Outline Drawing: SMA Connectorized *



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

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