M80 / M80C



Double-Balanced Mixer

Rev. V2

Features

- LO 4 TO 18 GHz
- RF 6 TO 18 GHz
- IF DC TO 3000 MHz
- LO DRIVE +7 dBm (nominal)
- WIDE BANDWIDTH
- LOW NOISE FIGURE

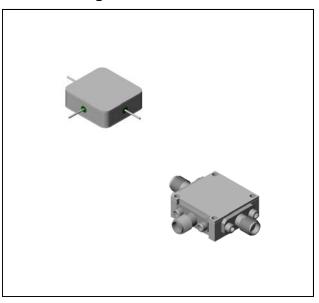
Description

The M80 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

Ordering Information

Part Number	Package	
M80	Minpac	
M80C	SMA Connectorized	

Product Image



Electrical Specifications: $Z_0 = 50\Omega$ Lo =

+7 dBm (Downconverter

Parameter	Test Conditions	Units	Typical	Guaranteed	
raiametei	rest Conditions			+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 6 to 16 GHz, fL = 5 to 17 GHz, fI = 30 to 1000 MHz fR = 6 to 18 GHz, fL = 4 to 18 GHz, fI = 1000 to 3000 MHz	dB dB	6.0 7.0	8.0 9.0	8.5 9.5
Isolation, L to R (min)	fL = 4 to 14 GHz fL = 14 to 18 GHz	dB dB	36 32	23 18	21 16
Isolation, L to I (min)	fL = 4 to 9 GHz fL = 9 to 18 GHz	dB dB	28 38	16 23	14 21
1 dB Conversion Comp.	fL = +7 dBm	dBm	+3		
Input IP3	fR1=13 GHz at -10 dBm,fR2=13.01GHz at -10 dBm, fL = 14 GHz at = +7 dBm	dBm	+10		

Commitment to produce in volume is not guaranteed.

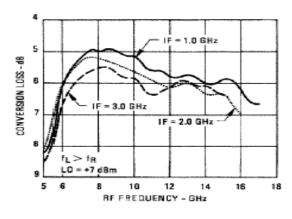


Double-Balanced Mixer

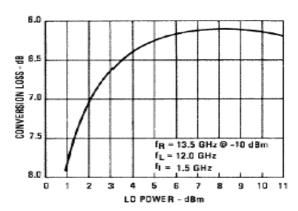
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Typical Performance Curves

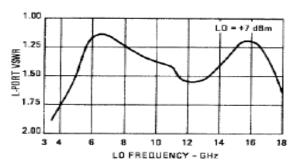
Conversion Loss

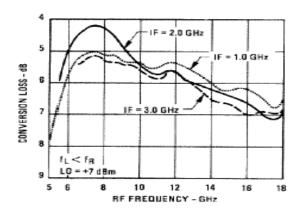


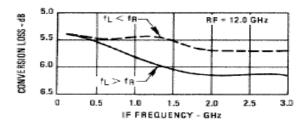
Conversion Loss vs. LO Drive Power

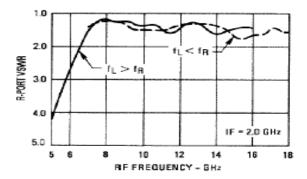


VSWR









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- India Tel: +91.80.4155721 Visit www.macomtech.com for additional data sheets and product information.
- China Tel: +86.21.2407.1588

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Double-Balanced Mixer

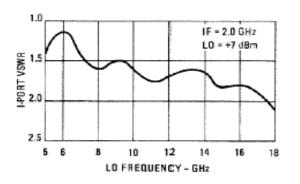
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Absolute Maximum Ratings

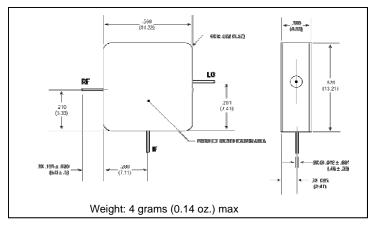
Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+23 dBm max @ +25°C +20 dBm max @ +100°C		
Peak Input Current	100 mA DC		

VSWR

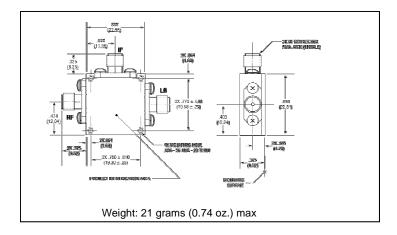
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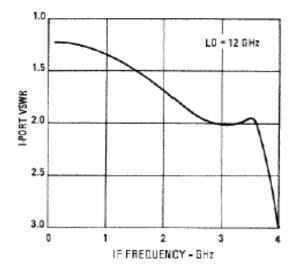


Outline Drawing: Minpac *



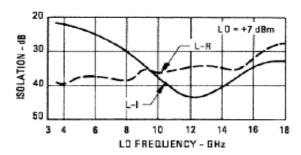
Outline Drawing: SMA Connectorized *





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

Isolation



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