

Double-Balanced Mixer

Rev. V2

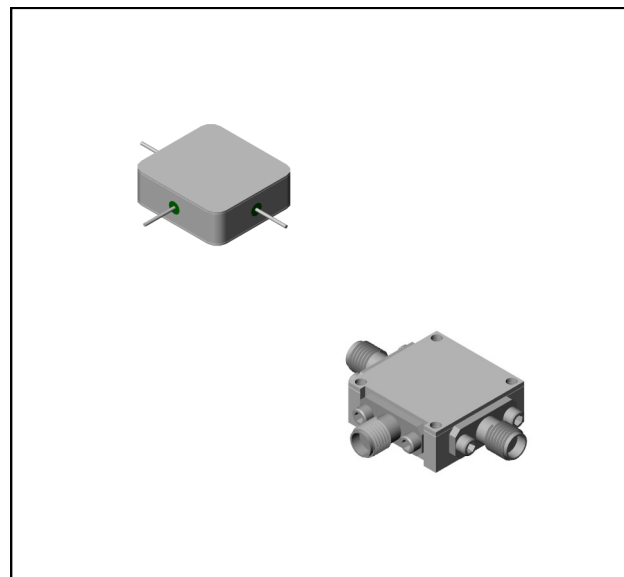
Features

- 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

Product Image



Ordering Information

Part Number	Package
M80	Minpac
M80C	SMA Connectorized

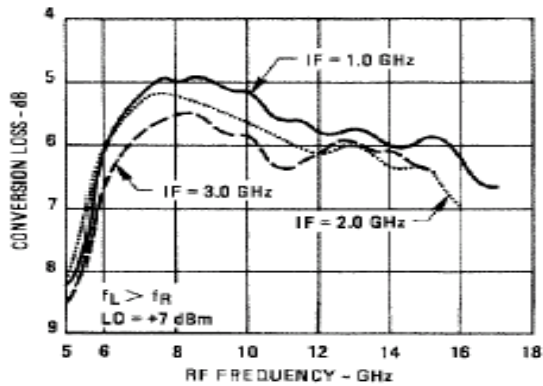
Electrical Specifications: $Z_0 = 50\Omega$ $L_o =$

+7 dBm (Downconverter)

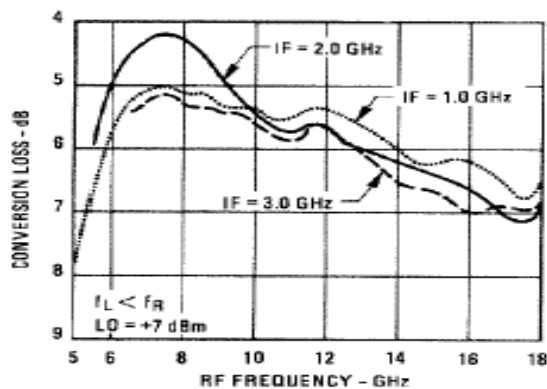
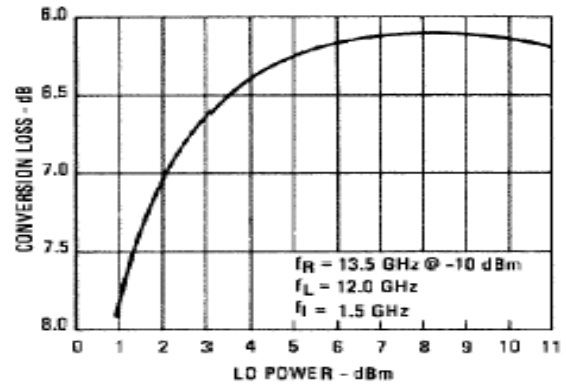
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 6 to 16 GHz, fL = 5 to 17 GHz, fI = 30 to 1000 MHz fR = 6 to 18 GHz, fL = 4 to 18 GHz, fI = 1000 to 3000 MHz	dB	6.0	8.0	8.5
			7.0	9.0	9.5
Isolation, L to R (min)	fL = 4 to 14 GHz fL = 14 to 18 GHz	dB	36	23	21
			32	18	16
Isolation, L to I (min)	fL = 4 to 9 GHz fL = 9 to 18 GHz	dB	28	16	14
			38	23	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		

Typical Performance Curves

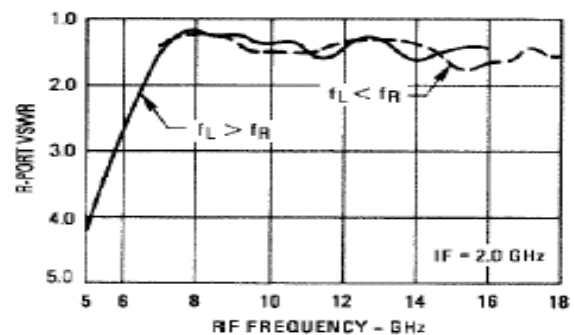
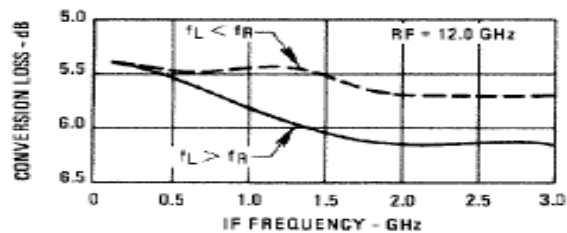
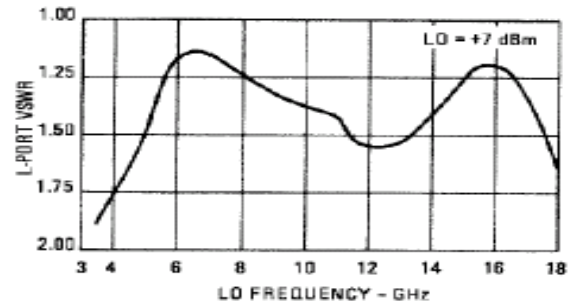
Conversion Loss



Conversion Loss vs. LO Drive Power



VSWR



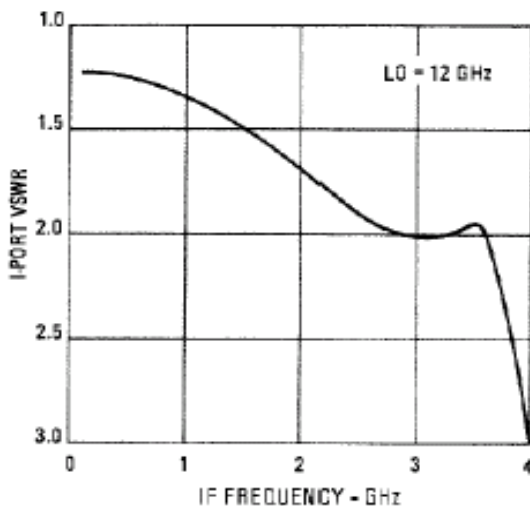
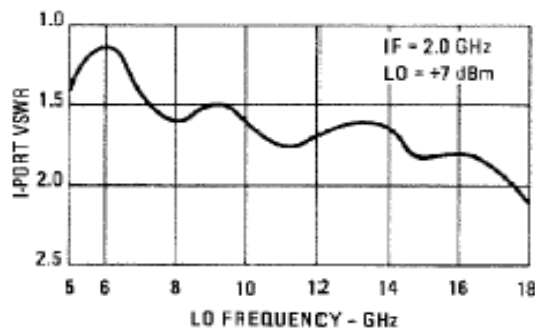
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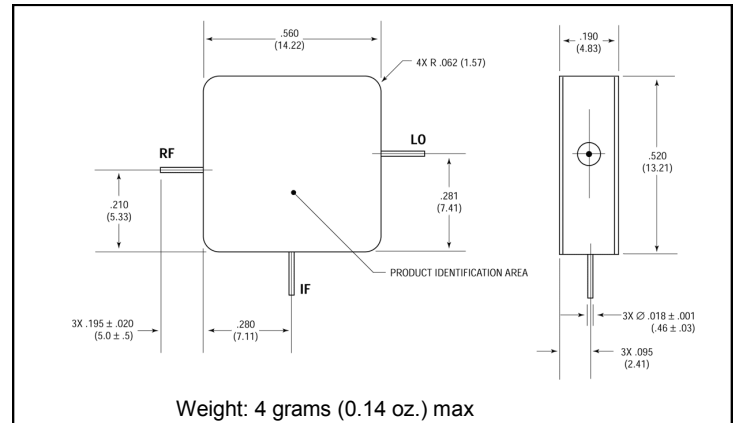
Absolute Maximum Ratings

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

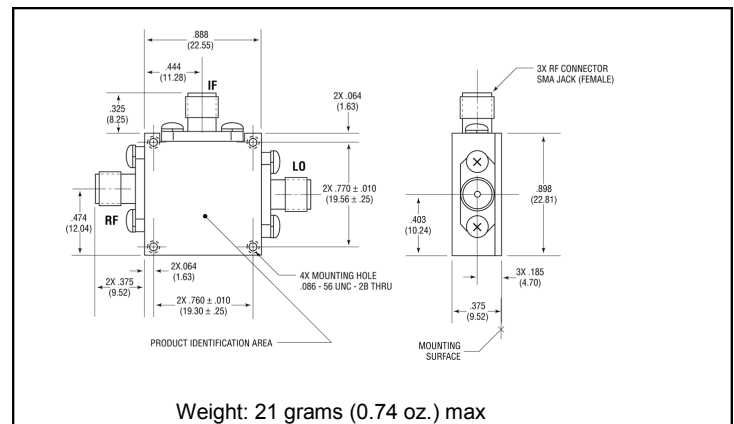
VSWR



Outline Drawing: Minpac *

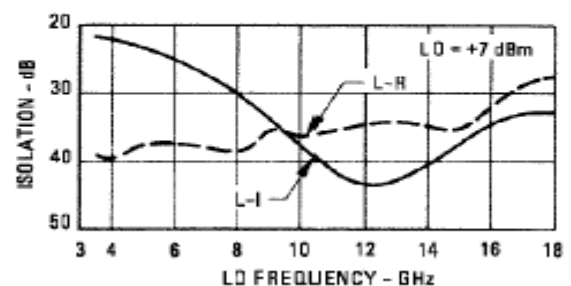


Outline Drawing: SMA Connectorized *



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

Isolation



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