# 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

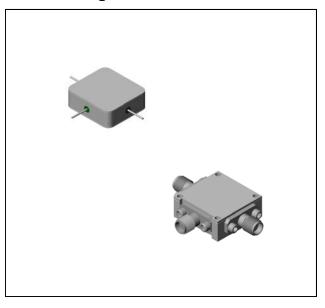
## Description

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	
Parameter	Test 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		28 38	16 23	14 21
1 dB Conversion Comp.	3 Conversion Comp. $fL = +7 \text{ dBm}$		+3		
Input IP3	fR1=13 GHz at -10 dBm,fR2=13.01GHz at -10 dBm, fL = 14 GHz at = +7 dBm	dBm	+10		

Solutions has under development. Performance is based on engineering tests. Specifications are

typical. Mechanical outline has been fixed. Engineering samples

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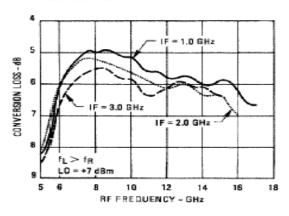


## **Double-Balanced Mixer**

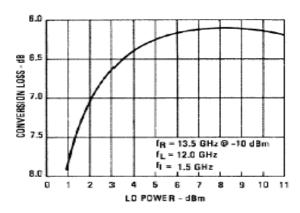
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## **Typical Performance Curves**

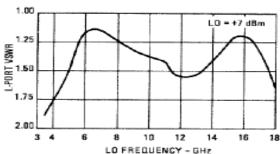
#### Conversion Loss

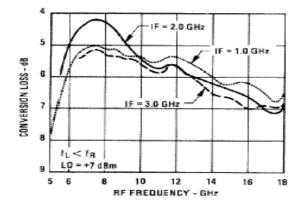


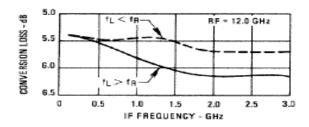
#### Conversion Loss vs. LO Drive Power



## VSWR

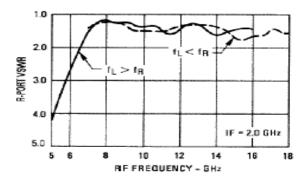






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PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are • North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400

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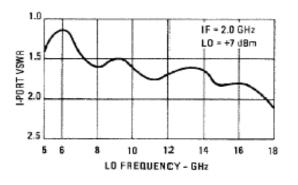
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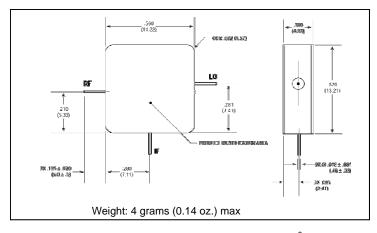
## **Absolute Maximum Ratings**

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

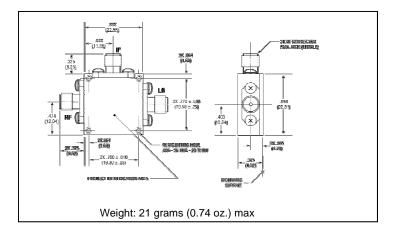
#### VSWR

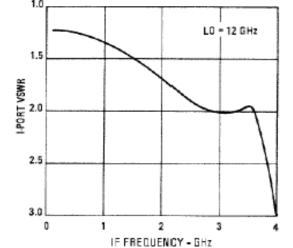


## Outline Drawing: Minpac \*



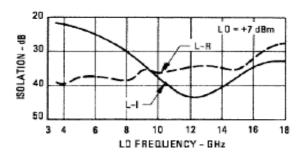
## Outline Drawing: SMA Connectorized \*





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

### Isolation



- **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.
- RELIMINARY: 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 on regit and may be available.
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