

Double-Balanced Mixer

Rev. V3

Features

- LO 2.5 TO 7 GHz
- RF 2.5 TO 5.5 GHz
- IF DC TO 1.5 GHz
- LO DRIVE: +9 dBm (NOMINAL)
- LOW NOISE FIGURE: 5.8 dB (TYP.)

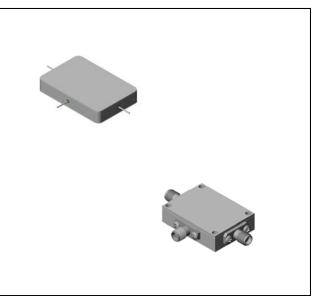
Description

The M63 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 MIL-DTL-28837, consult factory.

Ordering Information

Part Number	Package	
M63	Minpac	
M63C	SMA Connectorized	

Product Image



Electrical Specifications: $Z_0 = 50\Omega$ Lo = +9 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
rarameter rest conditions		Units		+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Fig- ure (max)	fR = 3.0 to 5.0 GHz, fL = 3.0 to 5.5 GHz, fI = 0.03 to 0.5 GHz fR = 2.5 to 5.5 GHz, fL = 2.5 to 7 GHz, fI = 0.03 to 1.5 GHz	dB dB	5.0 5.8	6.0 7.0	6.5 7.5
Isolation, L to R (min)	fL = 2.5 to 7 GHz	dB	40	30	28
Isolation, L to I (min)	fL = 2.5 to 3.5 GHz fL = 3.5 to 7 GHz	dB dB	25 30	17 20	15 18
1 dB Conversion Comp. fL = +9 dBm		dBm	+2		
Input IP3	fR1=4.00 GHz at -10 dBm,fR2=4.01GHz at -10 dBm, fL = 22.8 GHz at = +9 dBm	dBm	+11		

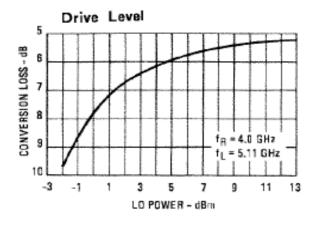
Visit www.macomtech.com for additional data sheets and product information.



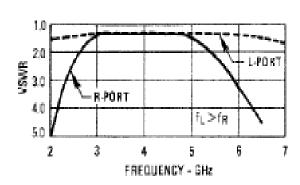
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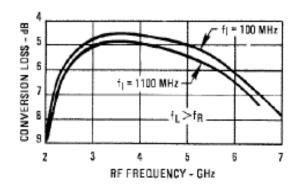
Typical Performance Curves

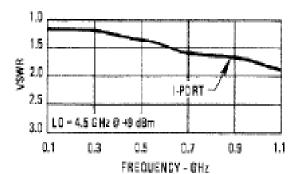


VSWR

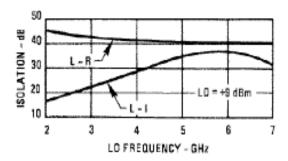


Conversion Loss





Isolation



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.

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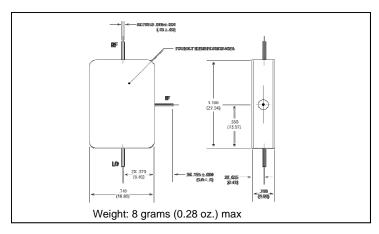
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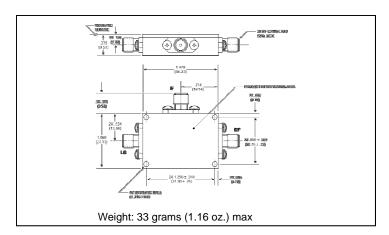
Absolute Maximum Ratings

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 dBm max @ +100°C		
Peak Input Current	100 mA DC		

Outline Drawing: Minpac *



Outline Drawing: SMA Connectorized *



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