

Double-Balanced Mixer

Rev. V3

Features

- LO 1.8 to 10 GHz
- RF 1.8 to 10 GHz
- IF DC to 1000 MHz
- LO Drive +9 dBm (nominal)
- Low Noise Figure

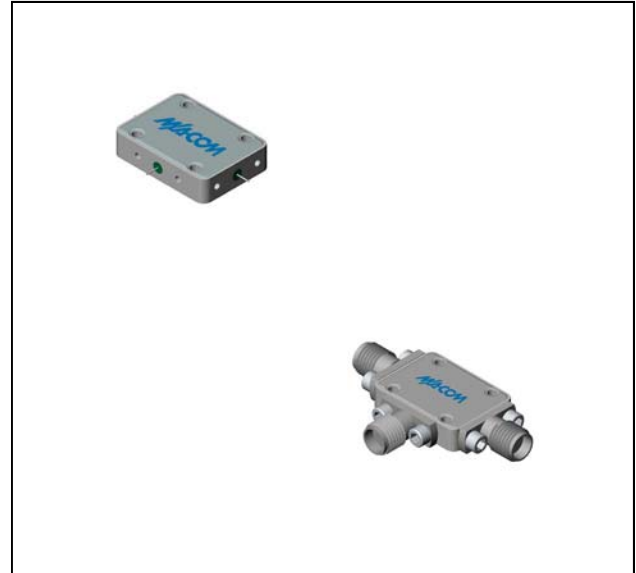
Description

The MY84 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 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
MY84	Versapac
MY84C	SMA Connectorized

Product Image

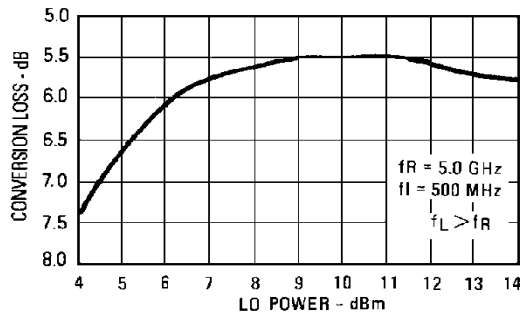


Electrical Specifications: $Z_0 = 50\Omega$ $L_o = +9$ dBm (Downconverter application only)

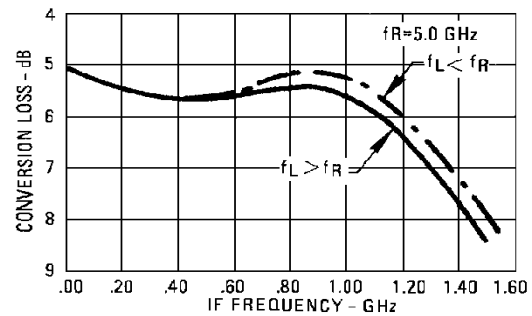
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max)	fR = 1.8 to 5.5 GHz, fL = 1.8 to 6 GHz, fI = 0.03 to 0.5 GHz fR = 5.5 to 10 GHz, fL = 5 to 10 GHz, fI = 0.03 to 1 GHz	dB	6.0 6.5	7.5 8.5	8.0 9.0
SSB Noise Figure (max)	Within 1 dB of conversion loss	dB	—	—	—
Isolation, L to R (min)	fL = 1.8 to 6 GHz fL = 6 to 10 GHz	dB	45 32	30 20	28 18
Isolation, L to I (min)	fL = 1.8 to 10 GHz	dB	30	18	16
1 dB Conversion Comp.	fL = +9 dBm	dBm	+4		
Input IP3	fR1 = 5 GHz at -10 dBm, fR2 = 5.01 GHz at -10 dBm, fL = 5.5 GHz at +9 dBm	dBm	+11		

Typical Performance Curves

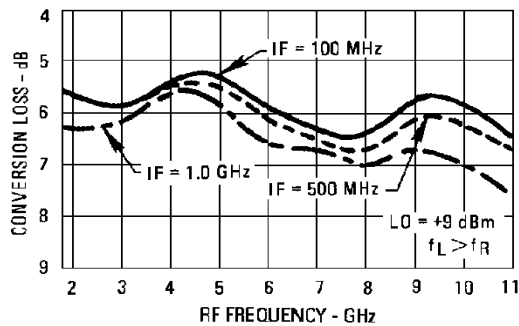
Conversion Loss vs. LO Drive Power



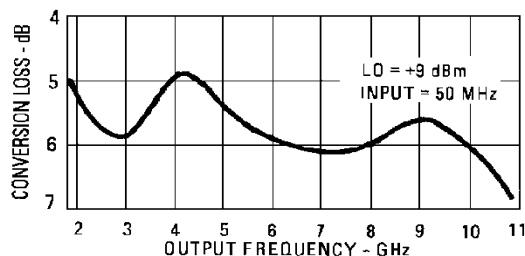
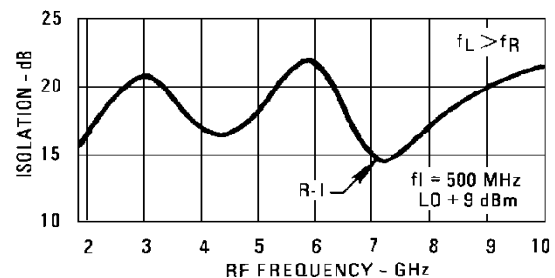
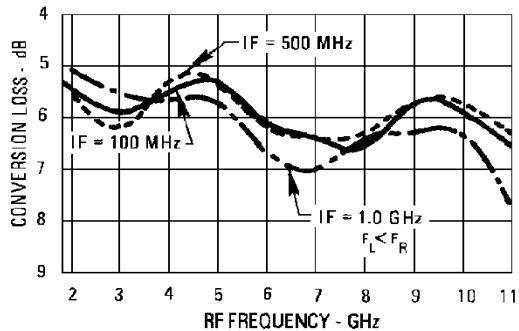
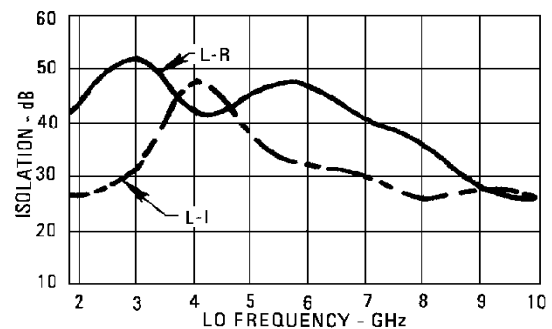
Conversion Loss



Conversion Loss



Isolation



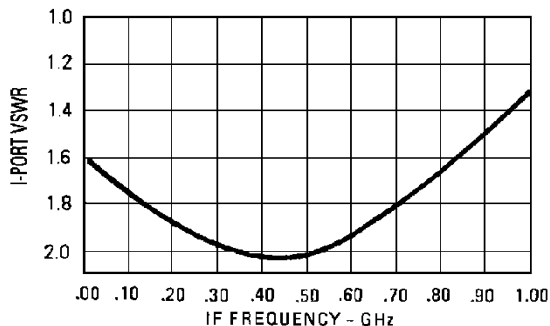
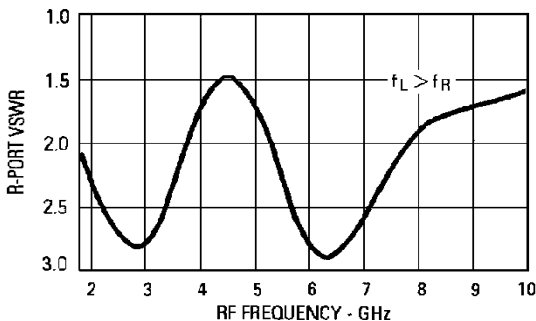
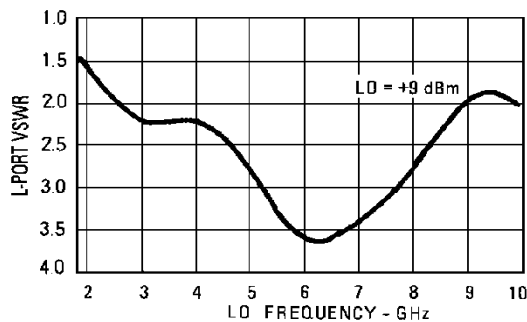
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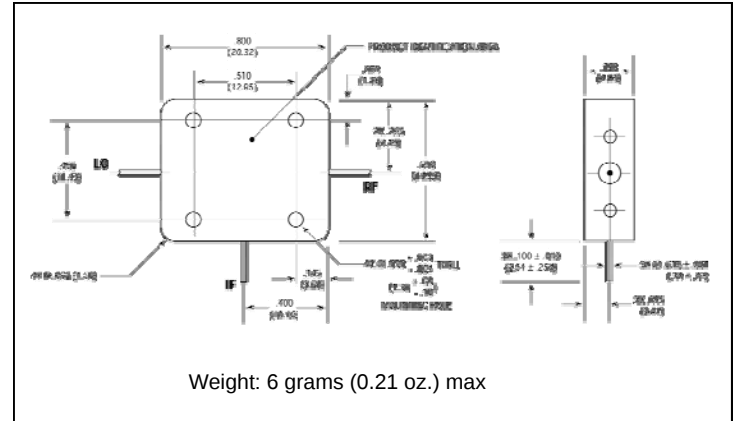
Absolute Maximum Ratings

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

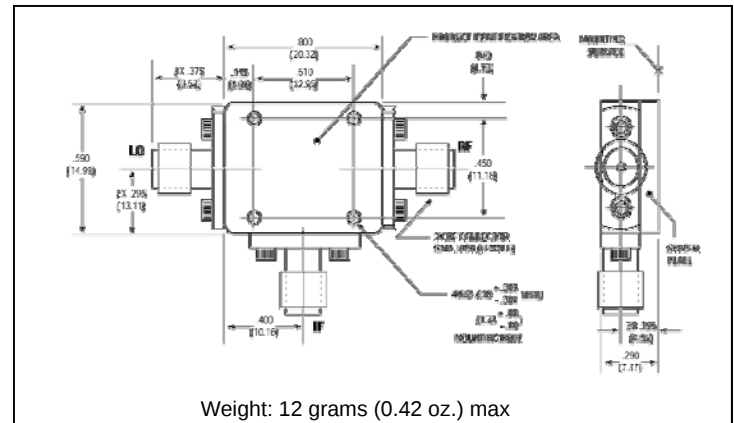
VSWR



Outline Drawing: Versapac *



Outline Drawing: SMA Connectorized *



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

Mouser Electronics

Authorized Distributor

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MACOM:

MY84