tyco Electronics

MACOM

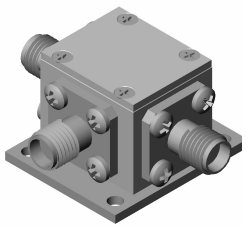
Double-Balanced Mixer

M14A
V2

Features

- LO 4 TO 16 GHz
- RF 6 TO 14 GHz
- IF DC TO 2 GHz
- LO DRIVE: +7 dBm (nominal)
- HIGH ISOLATION: 35 dB (TYP.)
- LOW VSWR: < 2.0:1 (TYP.)
- LOW NOISE FIGURE: < 6.0 dB (TYP.)

Product Image



Description

The M14A 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
M14A	SMA Connectorized

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +7 dBm (Downconverter Application only)

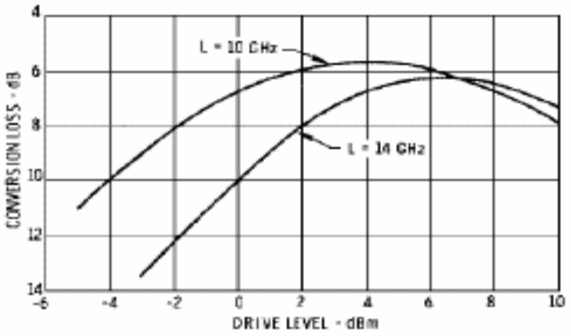
Parameter	Test Conditions	Units	Typical	Guaranteed	
			25ºC	0º to 50ºC	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR = 6 to 9 GHz , fL = 5 to 10 GHz , fI = 0.05 to 1 GHz fR = 6 to 14 GHz, fL = 4 to 16 GHz, fI = 0.05 to 2 GHz	dB dB	5.5 7.5	8.0 9.0	8.5 9.5
Isolation, L to R (min)	fL = 4 to 12 GHz fL = 12 to 16 GHz	dB dB	35 28	20 15	18 13
Isolation, L to I (min)	fL = 4 to 6 GHz fL = 6 to 12 GHz fL = 12 to 16 GHz	dB dB dB	17 35 40	12 23 28	10 21 26
1 dB Conversion Compression	fL @ +7 dBm	dBm	+2		
Input IP3					

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

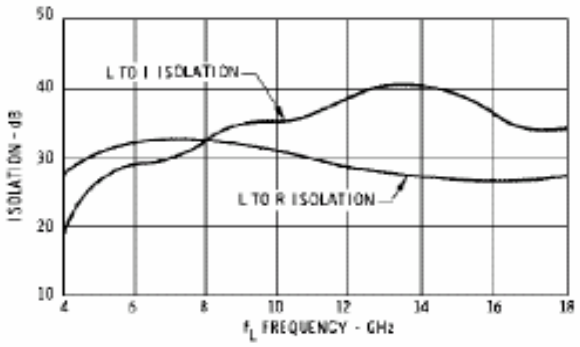
Visit www.macom.com for additional data sheets and product information.

Typical Performance Curves

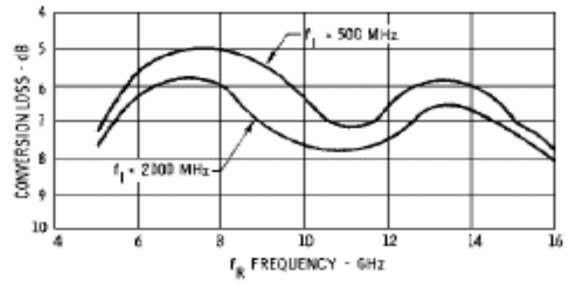
Conversion Loss



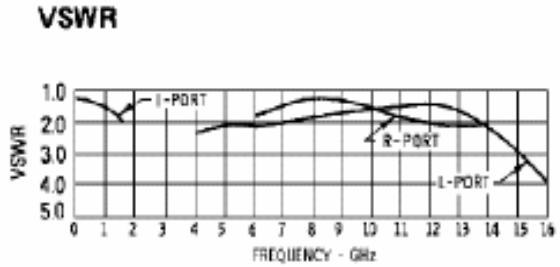
Isolation



Conversion Loss vs. Input Frequency



VSWR



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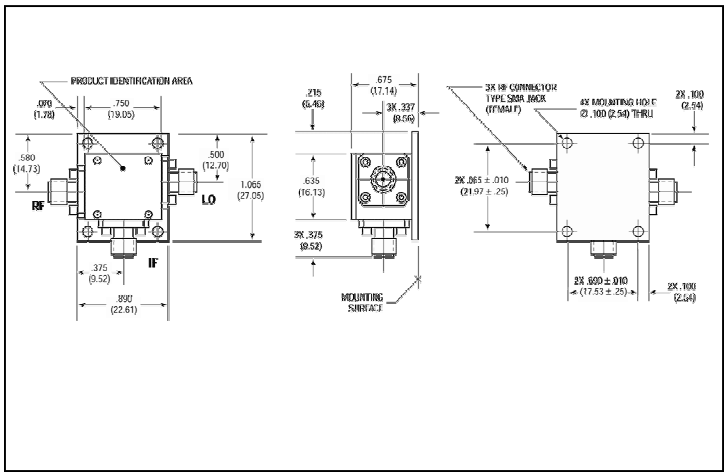
Absolute Maximum Ratings

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

Outline Drawing: SMA Connectorized



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