

Double-Balanced Mixer

Rev. V2

Features

- LO 10 TO 1200 MHz
- RF 10 TO 1000 MHz
- IF DC TO 1000 MHz
- LO DRIVE +7 dBm (nominal)
- HIGH ISOLATION 40 dB (TYP.)

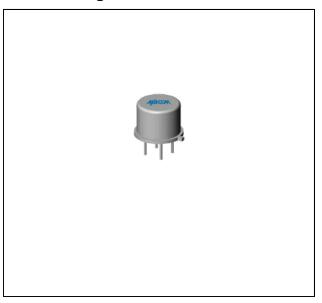
Description

The M6R is a double balanced mixer, designed for use in military, commercial, and test equipment applications. The design utilizes Schottky ring quad diodes and broadband 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. Environmental screening is available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

Part Number	Package
M6R	TO-8

Product Image



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

Parameter	Test Conditions		Typical	Guaranteed	
raiameter rest conditions		Units	25°C	0º to 50ºC	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR=20 to 600 MHz, fL=10 to 1000 MHz,fl=1 to 500 MHz fR=10 to 1000 MHz, fL=10 to 1200 MHz,fl=1 to 200 MHz fl=1 to 1000MHz	dB dB dB	6.0 7.5 8.5	7.0 8.5 9.5	7.5 9.0 10.0
Isolation, L to R (min)	fL = 10 to 100 MHz fL = 100 to 500 MHz fL = 500 to 1000 MHz	dB dB dB	55 35 25	45 25 20	43 23 18
Isolation, L to I (min)	fL = 10 to 100 MHz fL = 100 to 500 MHz fL = 500 to 1000 MHz	dB dB dB	40 25 20	30 20 15	28 18 13
1 dB Conversion Compression	- · ·		+0		
Input IP3		dBm	+13		

[•] North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400 • India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588 Visit www.macomtech.com for additional data sheets and product information.

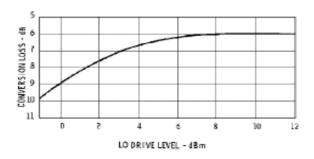


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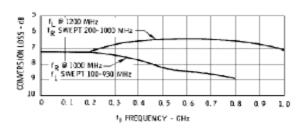
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Typical Performance Curves

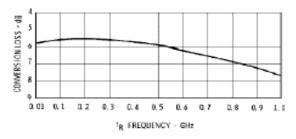
Conversion Loss



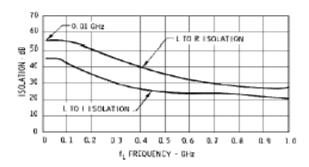
Conversion Loss



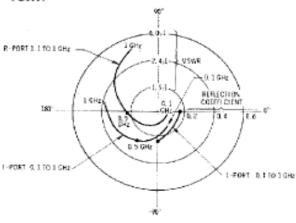
Conversion Loss vs. Input Frequency



Isolation



VSWR



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.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make Commitment to produce in volume is not guaranteed.

- India Tel: +91.80.4155721
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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 +17 dBm max @ +100°C		
Peak Input Current	50 mA DC		

Outline Drawing: TO-8

