

Double-Balanced Mixer

Rev. V2

Features

- LO 0.4 TO 500 MHz
- RF 0.4 TO 500 MHz
- IF DC TO 500 MHz
- LO DRIVE +7 dBm (nominal)
- HIGH ISOLATION 50 dB (TYP.)

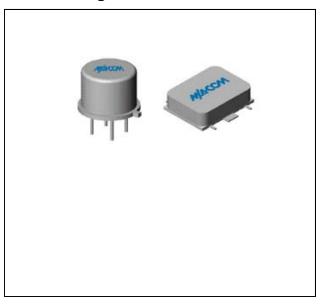
Description

The M6V 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	
M6V	TO-5	
SM6V	Surface Mount	

Product Image



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

Parameter	Parameter Test Conditions		Typical	Guaranteed	
raiametei	Test Conditions	Units	25°C	0º to 50ºC	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR=0.001 to 0.2 GHz, fL=0.001 to 0.2 GHz, fl=0.001 to 0.2 GHz fR = 0.0004 to 0.5 GHz, fL = 0.0004 to 0.5 GHz, fl = 0.0004 to 0.5 GHz	dB dB	6.0 7.0	6.5 7.5	7.0 8.0
Isolation, L to R (min)	fL = 0.0004 to 0.06 GHz fL = 0.06 to 0.5 GHz	dB dB	55 40	45 30	43 28
Isolation, L to I (min)	fL = 0.0004 to 0.06 GHz fL = 0.06 to 0.5 GHz	dB dB	45 30	30 20	28 18
1 dB Conversion Compression	fL @ +7 dBm	dBm	+0		

Commitment to produce in volume is not guaranteed.

[•] India Tel: +91.80.4155721 Visit www.macomtech.com for additional data sheets and product information.

[•] China Tel: +86.21.2407.1588

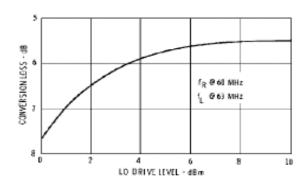


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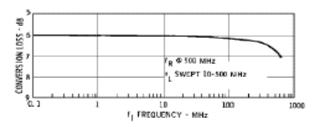
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Typical Performance Curves

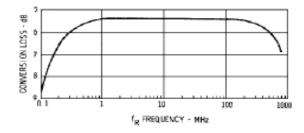
Conversion Loss



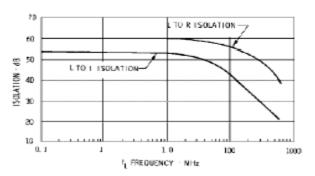
Conversion Loss



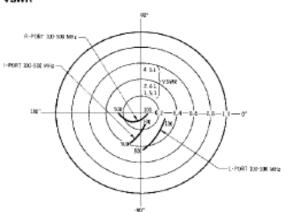
Conversion Loss vs. Input Frequency



Isolation



VSWR



2

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. Commitment to produce in volume is not guaranteed.

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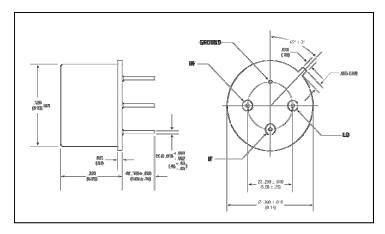
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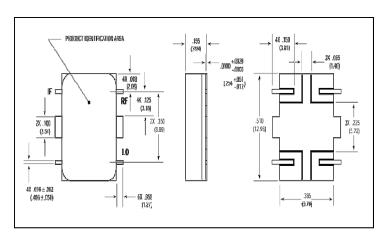
Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54 C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	23 dBm max @ +25⁰C 17 dBm max @ +100ºC		
Peak Input Current	50 mA DC		

Outline Drawing: TO-5



Outline Drawing: Surface Mount



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