

Double-Balanced Mixer

Rev. V3

Features

- LO 1 TO 400 MHz
- RF 1 TO 400 MHz
- IF 0 TO 400 MHz
- LO DRIVE: +27 dBm (NOMINAL)
- HIGH INTERCEPT POINT: +32.5 dBm (TYP.)

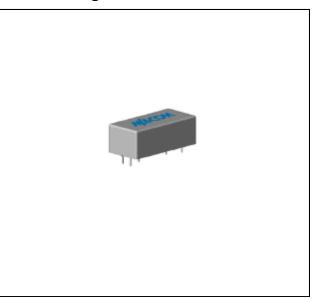
Description

The M9E 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 Environmental screening is available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

Part Number	Package
M9E	Relay Can

Product Image



Electrical Specifications: $Z_0 = 50\Omega$ Lo = +27 dBm (Downconverter Application only)

Parameter	Tot Conditions	Units	Typical	Typical Guaranteed	
Parameter	Test Conditions		25°C	0º to 50°C	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR=0.002 to 0.05 GHz, fL=0.002 to 0.05 GHz, fl=0.002 to 0.1GHz fR=0.001 to 0.1 GHz, fL=0.001 to 0.1 GHz, fl=0.0004 to 0.4GHz fR=0.001 to 0.4 GHz, fL=0.001 to 0.4 GHz, fl=0.0004 to 0.2 GHz	dB dB dB	6.0 7.0 8.0	7.0 7.5 9.0	7.3 7.8 9.3
Isolation, L to R (min)	fL = 0.001 to 0.03 GHz fL = 0.03 to 0.1 GHz fL = 0.1 to 0.4 GHz	dB dB dB	50 40 30	45 35 25	44 34 24
Isolation, L to I (min)	fL = 0.001 to 0.03 GHz fL = 0.03 to 0.1 GHz fL = 0.1 to 0.4 GHz	dB dB dB	55 45 35	45 40 25	44 39 24
Isolation, R to I (min)	fL = 0.001 to 0.4 GHz	dB	25		
1 dB Conversion Compression	fL @ +27 dBm	dBm	+20		
Input IP3		dBm	+32.5		

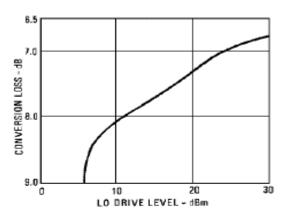
[•] North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400 • India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588 Visit www.macomtech.com for additional data sheets and product information.

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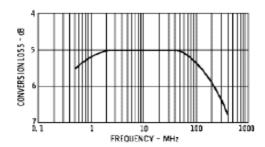
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Typical Performance Curves

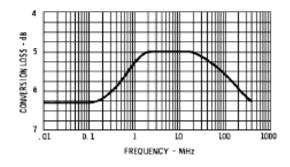
Conversion Loss



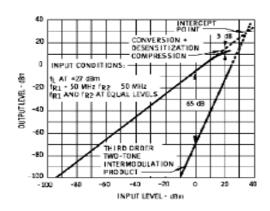
Conversion Loss vs. Input Frequency



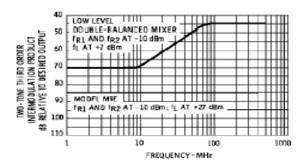
Conversion Loss vs. Output Frequency



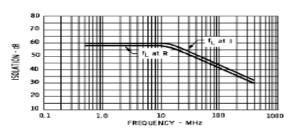
Two-Tone Supression vs. Input Level



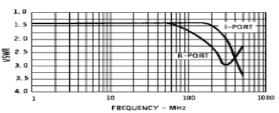
Two-Tone Suppression vs. Input Frequency



Isolation



VSWR



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ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions 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.

Commitment to produce in volume is not guaranteed.

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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	+33 dBm max @ +25°C dBm max @ +100°C		
Peak Input Current	200 mA DC		

Outline Drawing: Relay Can

