M9E

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

Product Image

Ordering Information

Part Number	Package
M9E	Relay Can

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +27 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=0.002 to 0.05 GHz, fL=0.002 to 0.05 GHz, fI=0.002 to 0.1GHz fR=0.001 to 0.1 GHz, fL=0.001 to 0.1 GHz, fI=0.0004 to 0.4GHz fR=0.001 to 0.4 GHz, fL=0.001 to 0.4 GHz, fI=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
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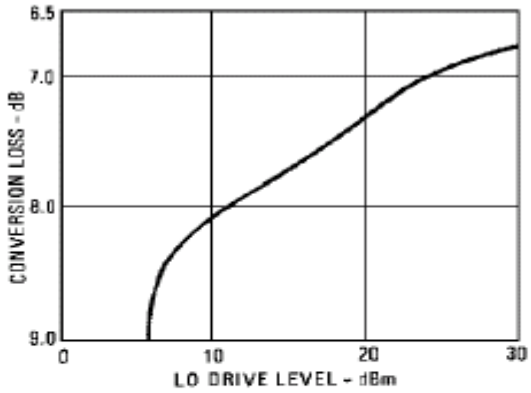
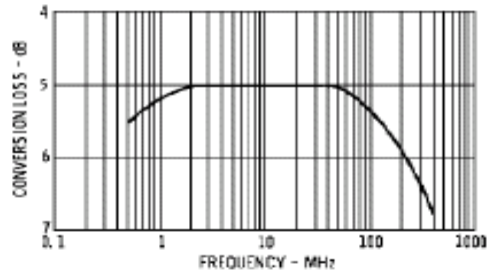
Typical Performance Curves

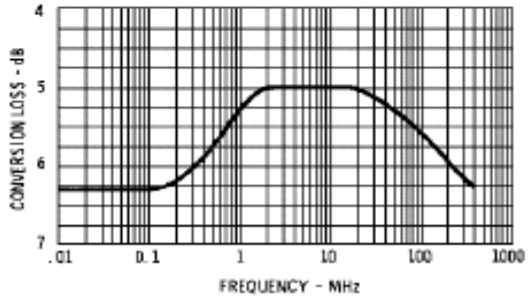
Conversion Loss



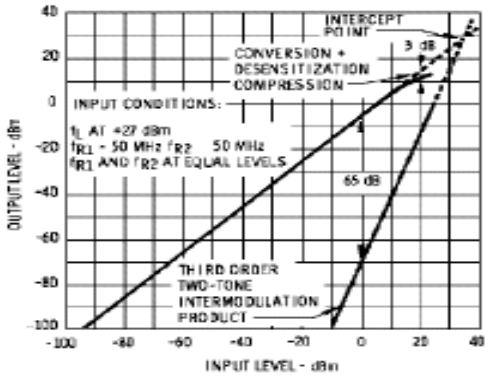
Conversion Loss vs. Input Frequency



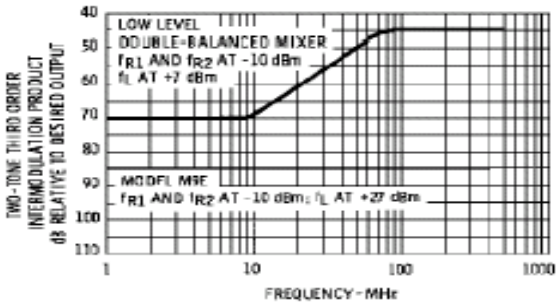
Conversion Loss vs. Output Frequency



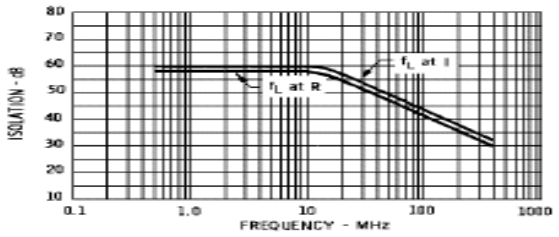
Two-Tone Supression vs. Input Level



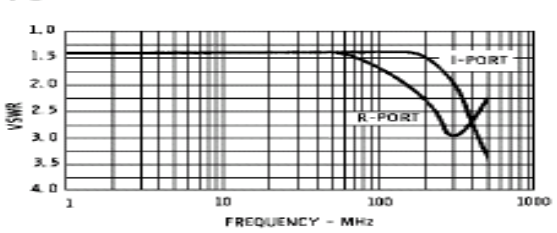
Two-Tone Suppression vs. Input Frequency



Isolation



VSWR



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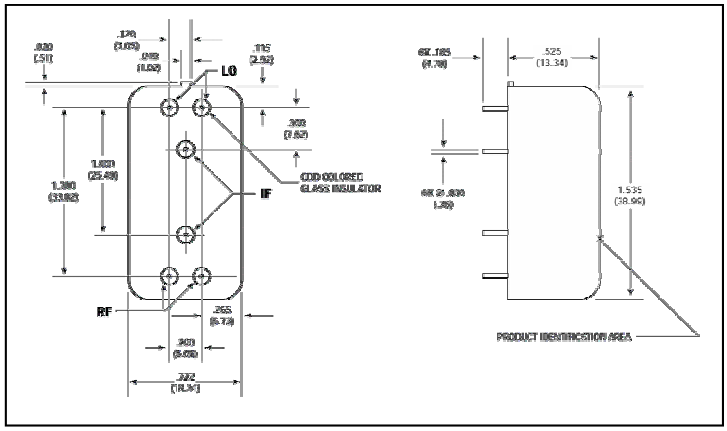
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54 C to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+33 dBm max @ +25ºC dBm max @ +100ºC
Peak Input Current	200 mA DC

Outline Drawing: Relay Can



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