

Double-Balanced Mixer

Rev. V3

Features

- LO 5 TO 500 MHz
- RF 5 TO 500 MHz
- IF DC TO 500 MHz
- LO DRIVE +7 dBm (nominal)
- HIGH ISOLATION 40 dB (TYP.)



Description

The M6E-50 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 available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

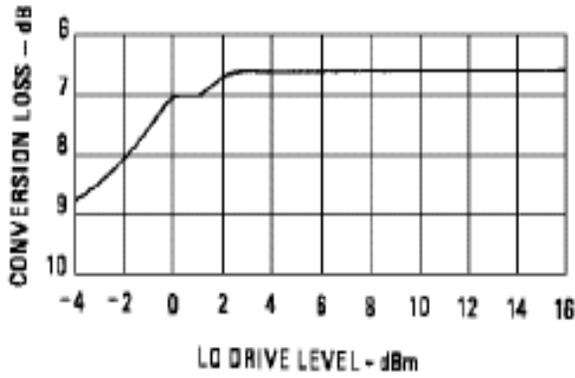
Part Number	Package
M6E-50	Relay Header

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

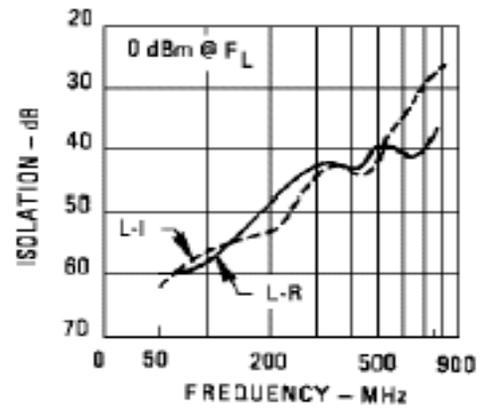
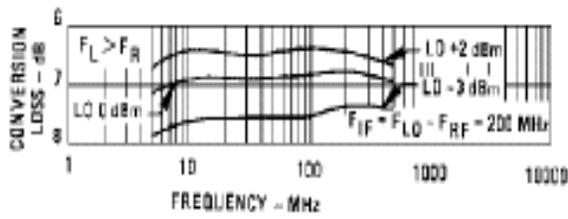
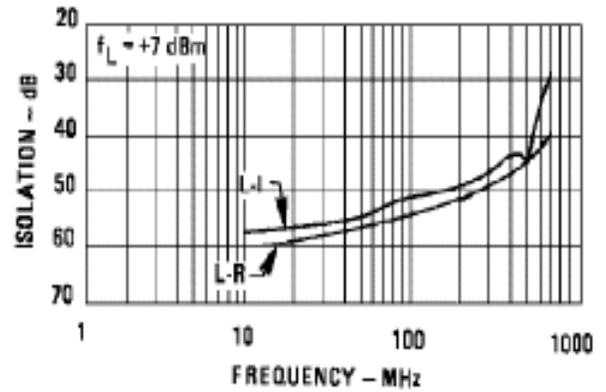
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	$f_R = 10$ to 100 MHz, $f_L = 10$ to 100 MHz, $f_I = 10$ to 100 MHz	dB	6.5	7.0	7.5
	$f_R = 100$ to 200 MHz, $f_L = 100$ to 200 MHz, $f_I = 10$ to 200 MHz	dB	7.5	8.0	8.5
	$f_R = 5$ to 500 MHz, $f_L = 5$ to 500 MHz, $f_I = 0.5$ to 500 MHz	dB	8.5	9.0	9.0
Isolation, L to R (min)	$f_L = 5$ to 50 MHz	dB	50	40	38
	$f_L = 50$ to 500 MHz	dB	35	30	28
Isolation, L to I (min)	$f_L = 5$ to 50 MHz	dB	45	35	33
	$f_L = 50$ to 500 MHz	dB	30	25	23

Typical Performance Curves

Conversion Loss



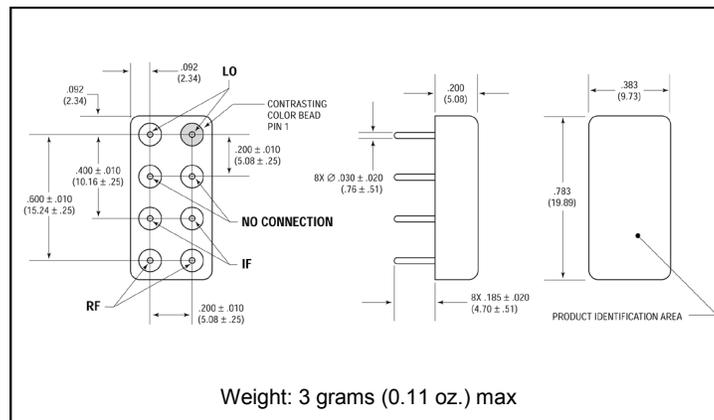
Isolation



Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+17 dBm max @ +25°C dBm max @ +100°C
Peak Input Current	50 mA DC

Outline Drawing: Relay Header *



* Dimensions are inches (millimeters) ± 0.015 (0.38) unless otherwise specified.

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