

Electronics

Double-Balanced Mixer





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: $Z_0 = 50\Omega$ Lo = +7 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
Falameter				+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 10 to 100 MHz , fL = 10 to 100 MHz, fl = 10 to 100 MHz fR = 100 to 200 MHz , fL = 100 to 200 MHz, fl = 10 to 200 MHz fR = 5 to 500 MHz, fL = 5 to 500 MHz, fl = 0.5 to 500 MHz	dB dB dB	6.5 7.5 8.5	7.0 8.0 9.0	7.5 8.5 9.0
Isolation, L to R (min)	fL = 5 to 50 MHz fL = 50 to 500 MHz	dB dB	50 35	40 30	38 28
Isolation, L to I (min)	fL = 5 to 50 MHz fL = 50 to 500 MHz	dB dB	45 30	35 25	33 23
1 dB Conversion Comp.					
Input IP3					

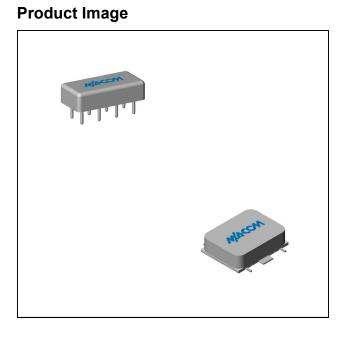


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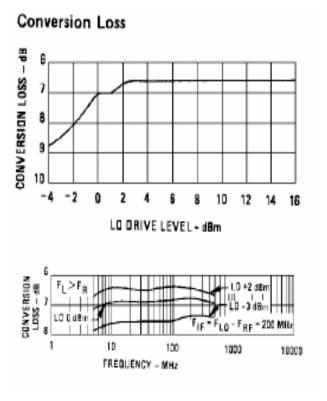


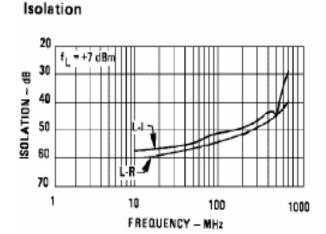


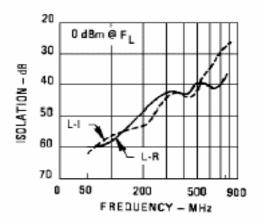


M6E-50

Typical Performance Curves







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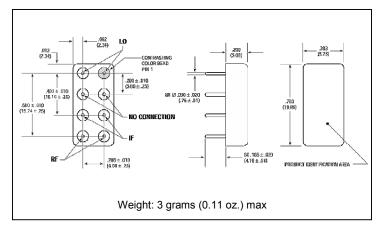




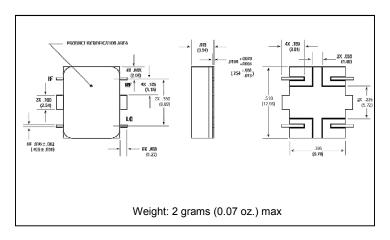
Absolute Maximum Ratings

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

Outline Drawing: Relay Header *



Outline Drawing: Surface Mount *



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

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