

# M6D-50

## Double-Balanced Mixer

Rev. V3

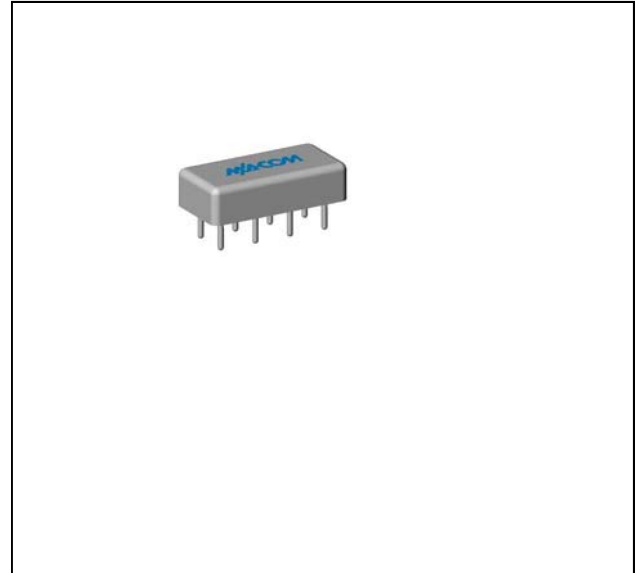
### Features

- LO 0.05 TO 200 MHz
- RF 0.05 TO 200 MHz
- IF 0 TO 200 MHz
- LO DRIVE: +7 dBm (NOMINAL)
- HIGH ISOLATION: 45 dB (TYP.)

### Description

The M6D-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.

### Product Image



### Ordering Information

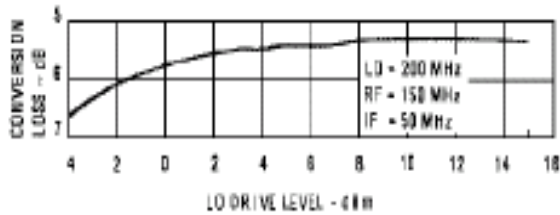
Part Number	Package
M6D-50	Relay Header

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

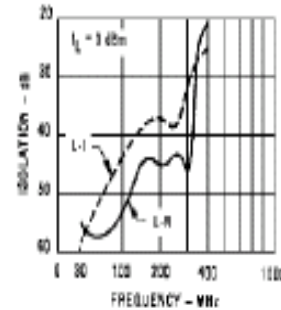
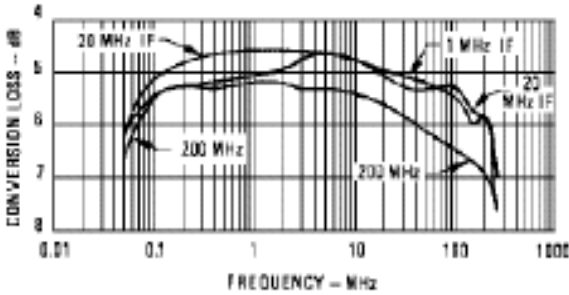
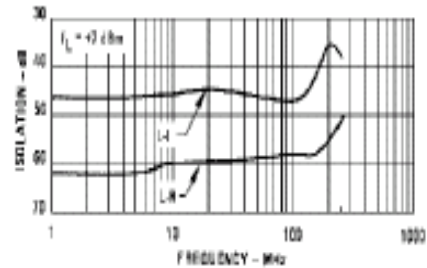
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR=0.0002 to 0.05 GHz , fL=0.0002 to 0.05 GHz, fl=0 to 0.05 GHz fR = 0.05 to 0.2 GHz , fL = 0.05 to 0.2 GHz, fl = 0.05 to 0.2 GHz fR = 0.00005 to 0.0002 GHz, fL = 0.00005 to 0.0002 GHz, fl = 0.00005 to 0.0002	dB	5.5	6.5	7.0
			7.5	8.0	8.5
			8.0	8.5	9.0
Isolation, L to R (min)	fL = 0.00005 to 0.03 GHz fL = 0.03 to 0.2 GHz	dB	55	40	38
			45	35	33
Isolation, L to I (min)	fL = 0.00005 to 0.03 GHz fL = 0.03 to 0.2 GHz	dB	50	35	33
			35	30	28

### Typical Performance Curves

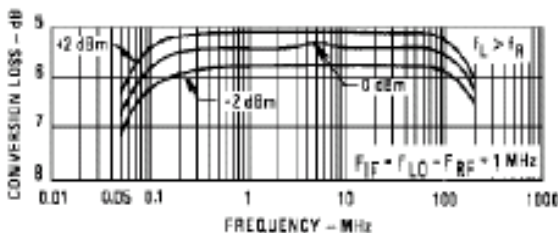
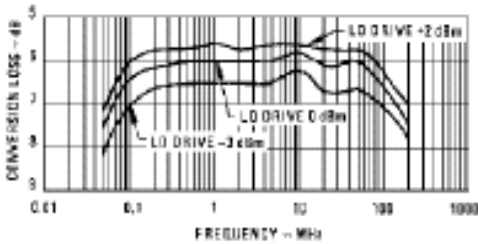
#### Conversion Loss



#### Isolation



#### Conversion Loss



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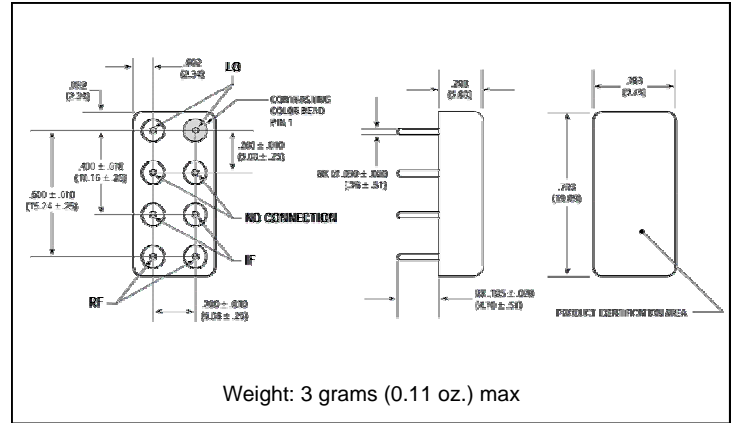
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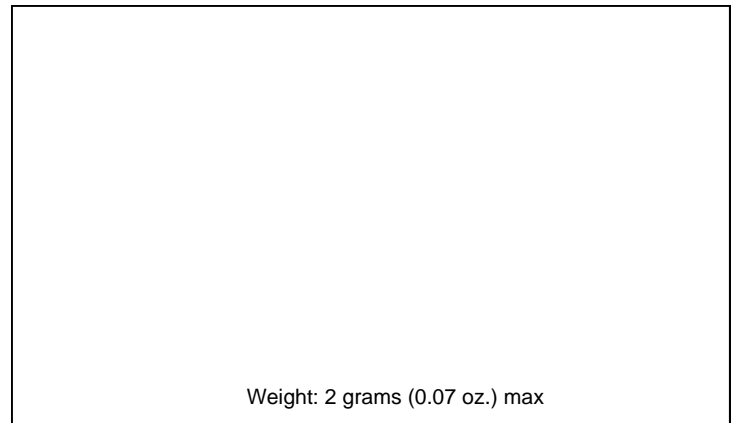
### Absolute Maximum Ratings

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

### Outline Drawing: Relay Header \*



### Outline Drawing:



\* Dimensions are inches (millimeters)  $\pm 0.015$  (0.38) unless otherwise specified.