

Electronics

Double-Balanced Mixer





Product Image

Features

- LO 10 TO 1200 MHz
- RF 10 TO 1000 MHz
- IF DC TO 1000 MHz
- LO DRIVE +7 dBm (nominal)
- HIGH ISOLATION 40 dB (TYP.)

Description

The M6R 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.

Ordering Information

Part Number	Package		
M6R	TO-8		

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

Parameter	Toot Conditions	Units	Typical	Guaranteed	
Parameter	Test Conditions		25°C	0° to 50°C	-54º to +85ºC
SSB Conversion Loss & SSB Noise Figure (max)	fR=20 to 600 MHz, fL=10 to 1000 MHz,fI=1 to 500 MHz fR=10 to 1000 MHz, fL=10 to 1200 MHz,fI=1 to 200 MHz fI=1 to 1000MHz	dB dB dB	6.0 7.5 8.5	7.0 8.5 9.5	7.5 9.0 10.0
Isolation, L to R (min)	fL = 10 to 100 MHz fL = 100 to 500 MHz fL = 500 to 1000 MHz	dB dB dB	55 35 25	45 25 20	43 23 18
Isolation, L to I (min)	fL = 10 to 100 MHz fL = 100 to 500 MHz fL = 500 to 1000 MHz	dB dB dB	40 25 20	30 20 15	28 18 13
1 dB Conversion Compression	fL @ +7 dBm	dBm	+0		
Input IP3		dBm	+13		

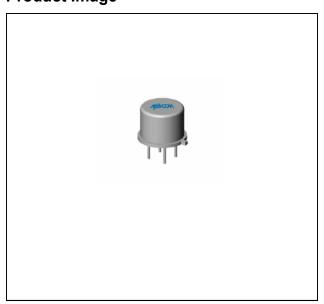
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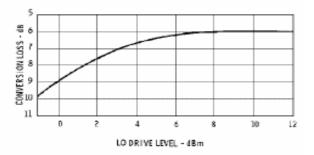




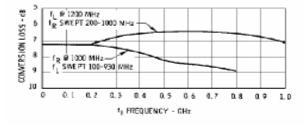
M6R

Typical Performance Curves

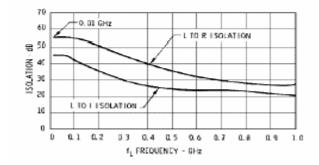
Conversion Loss



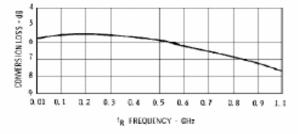
Conversion Loss



Isolation

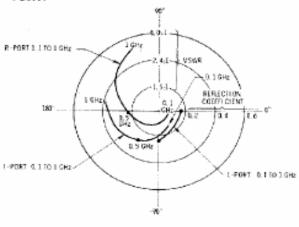


Conversion Loss vs. Input Frequency



VSWR

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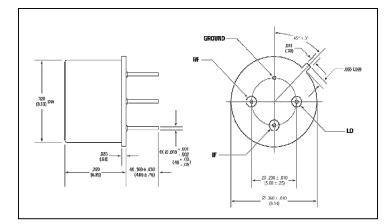




Absolute Maximum Ratings

Outline Drawing: TO-8

Parameter	Absolute Maximum			
Operating Temperature	-54 C to +100°C			
Storage Temperature	-65°C to +100°C			
Peak Input Power	+23 dBm max @ +25°C +17 dBm max @ +100°C			
Peak Input Current	50 mA DC			



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