

Double-Balanced Mixer

Rev. V2

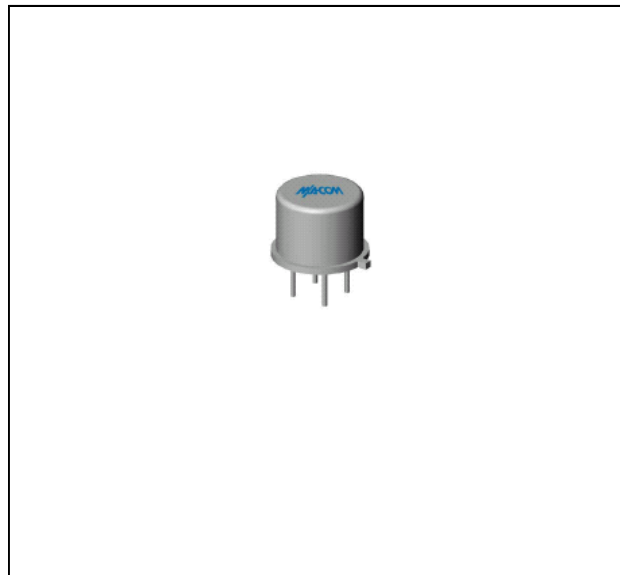
Features

- 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.

Product Image



Ordering Information

Part Number	Package
M6R	TO-8

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

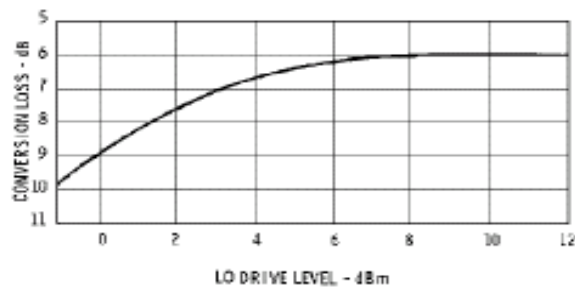
Parameter	Test Conditions	Units	Typical	Guaranteed	
			25°C	0° to 50°C	-54° to +85°C
SSB Conversion Loss & SSB Noise Figure (max)	fR=20 to 600 MHz, fL=10 to 1000 MHz, fI=1 to 500 MHz fR=10 to 1000 MHz, fL=10 to 1200 MHz, fI=1 to 200 MHz fI=1 to 1000MHz	dB	6.0	7.0	7.5
		dB	7.5	8.5	9.0
		dB	8.5	9.5	10.0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

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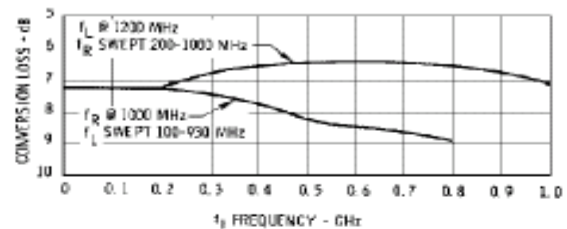
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Typical Performance Curves

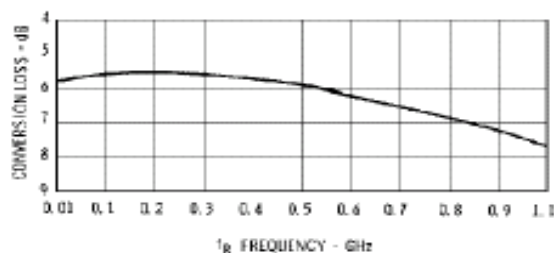
Conversion Loss



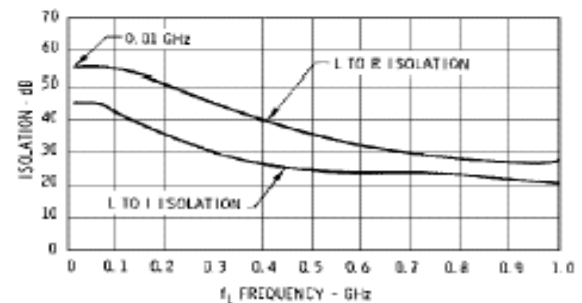
Conversion Loss



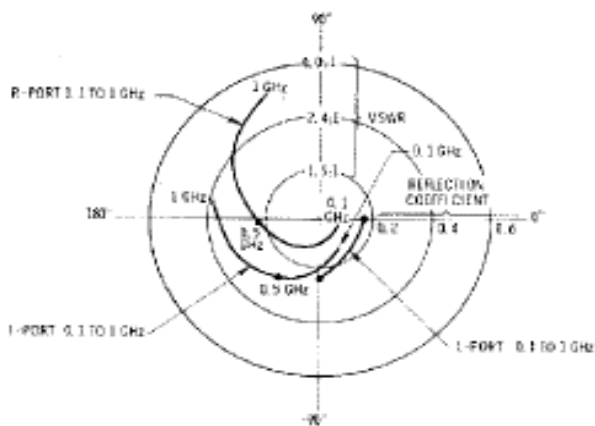
Conversion Loss vs. Input Frequency



Isolation



VSWR



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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	+23 dBm max @ +25°C +17 dBm max @ +100°C
Peak Input Current	50 mA DC

Outline Drawing: TO-8

