

Load Insensitive Mixer

Rev. V3

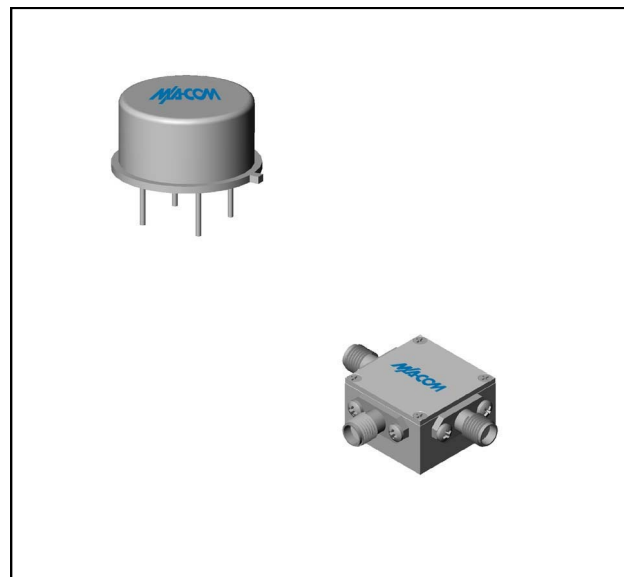
Features

- LO 0.001 to 3.4 GHz
- RF 0.001 to 3.4 GHz
- IF 0.001 to 2 GHz
- LO Drive +10 dBm (nominal)
- Insensitive To VSWR Mismatch
- High Intercept Point +18 dBm (typ)

Description

The M8T is a termination insensitive mixer, designed for use in military, wireless and test equipment applications. The design utilizes Schottky bridge quad diodes, broadband ferrite baluns and internal loads to provide excellent performance without degradation due to external VSWR mismatches. Environmental screening available to MIL-STD-883, MIL-STD-202 or MIL-DTL-28837, consult factory.

Product Image



Ordering Information

Part Number	Package
M8T	TO-8
M8TC	SMA Connectorized

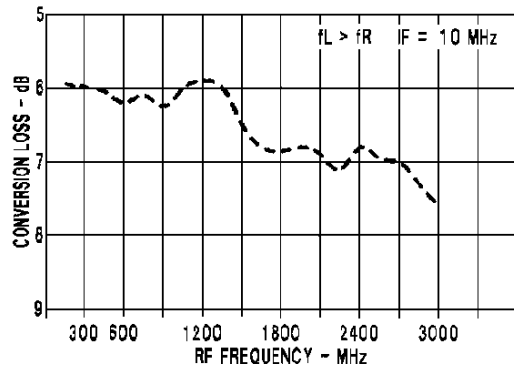
Electrical Specifications: $Z_0 = 50\Omega$ $L_o = +10$ dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C*
SSB Conversion Loss (max)	fR = 0.005 to 1 GHz, fL = 0.005 to 1 GHz, fl = 0.001 to 0.5 GHz fR = 0.001 to 3 GHz, fL = 0.001 to 3 GHz, fl = 0.001 to 1.5 GHz fR = 0.001 to 3.4 GHz, fL = 0.001 to 3.4 GHz, fl = 0.001 to 2 GHz	dB	6.0	8.0	8.5
			7.0	9.0	9.5
			8.0	10.5	11.0
SSB Noise Figure (max)	Within 1 dB of conversion loss	dB	—	—	—
Isolation, L to R (min)	fL = 0.01 to 1.5 GHz fL = 0.01 to 3.4 GHz	dB	40	35	33
			35	25	23
Isolation, L to I (min)	fL = 0.01 to 1.5 GHz fL = 0.01 to 3.4 GHz	dB	40	32	30
			35	25	23
Isolation, R to I (min)	fR = 0.01 to 3.4 GHz	dB	25		
1 dB Conversion Comp.	fL = +10 dBm	dBm	+7		
Input IP3	fR1 = 1.9 GHz at -10 dBm, fR2 = 1.91 GHz at -10 dBm, fL = 2 GHz at +10 dBm	dBm	+18		

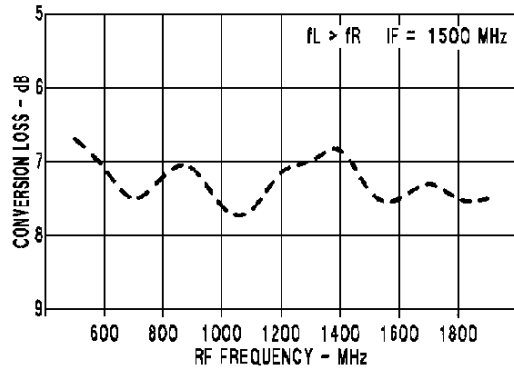
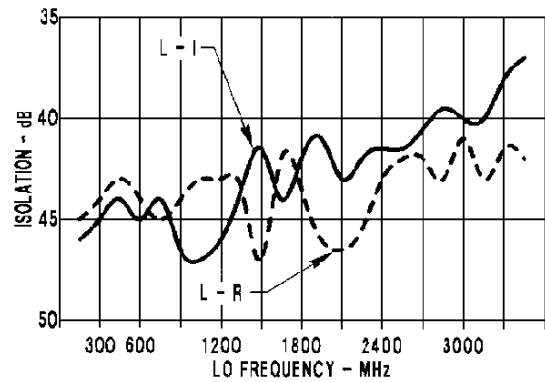
* The M8TC specification limits apply at 0°C to +50°C.

Typical Performance Curves

Conversion Loss vs. Frequency



Isolation vs. Frequency



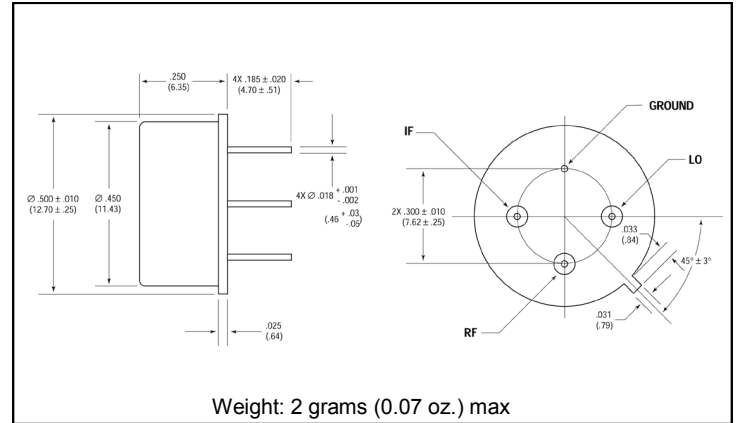
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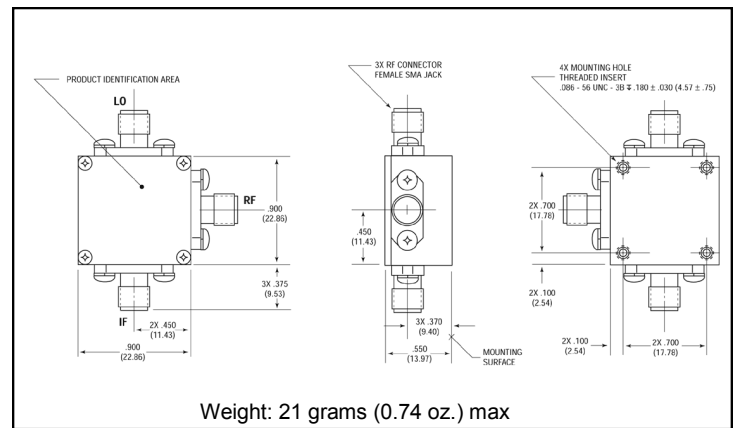
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+27 dBm max @ +25°C +23 dBm max @ +100°C
Peak Input Current	50 mA DC

Outline Drawing: TO-8 *



Outline Drawing: SMA Connectorized *



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

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