M8T / M8TC



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)

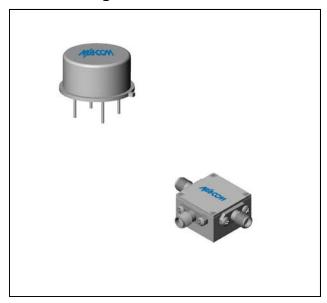
Description

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.

Ordering Information

Part Number	Package	
M8T	TO-8	
M8TC	SMA Connectorized	

Product Image



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

Doromotor	Test Conditions	Units	Typical	Guaranteed	
Parameter				+25°C	-54º to +85ºC*
SSB Conversion Loss (max)	$fR = 0.005 \ to \ 1 \ GHz, \ fL = 0.005 \ to \ 1 \ GHz, \ fI = 0.001 \ to \ 0.5 \ GHz \\ fR = 0.001 \ to \ 3 \ GHz, \ fL = 0.001 \ to \ 3 \ GHz, \ fI = 0.001 \ to \ 3.4 \ GHz, \ fL = 0.001 \ to \ 3.4 \ GHz, \ fI = 0.001 \ to \ 2 \ GHz$	dB	6.0 7.0 8.0	8.0 9.0 10.5	8.5 9.5 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	35 25	33 23
Isolation, L to I (min)	fL = 0.01 to 1.5 GHz fL = 0.01 to 3.4 GHz	dB	40 35	32 25	30 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.

ained herein without notice.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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[•] India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588 Visit www.macomtech.com for additional data sheets and product information.

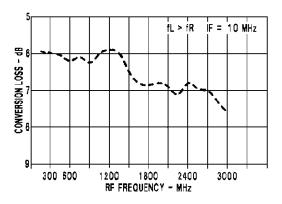


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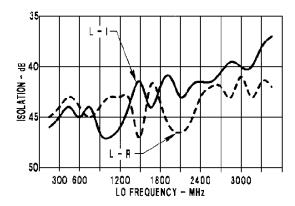
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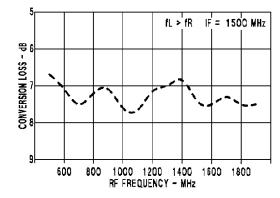
Typical Performance Curves

Conversion Loss vs. Frequency



Isolation vs. Frequency





Solutions has under development. Performance is based on engineering tests. Specifications are

typical. Mechanical outline has been fixed. Engineering samples

Commitment to produce in volume is not du

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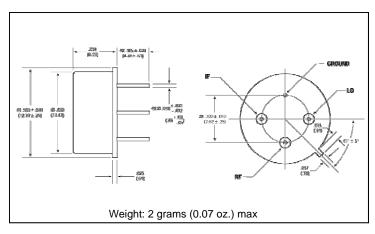
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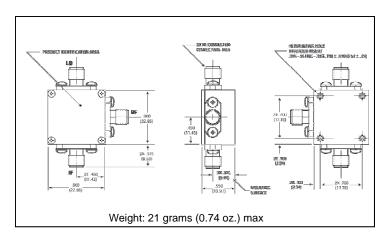
Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+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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