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		

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

Product Image

Desemator	Test Oss ditions	Units	Typical	Guaranteed	
Parameter	Test Conditions			+25⁰C	-54º to +85ºC*
SSB Conversion Loss (max)	$eq:rescaled_$	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.

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M8T / M8TC



Typical Performance Curves

Conversion Loss vs. Frequency



Isolation vs. Frequency





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Rev. V3

Absolute Maximum Ratings

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Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+27 dBm max @ +25⁰C +23 dBm max @ +100⁰C
Peak Input Current	50 mA DC



Outline Drawing: SMA Connectorized *



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

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