

**Wideband Load Insensitive Mixer**

**M5T**  
V2

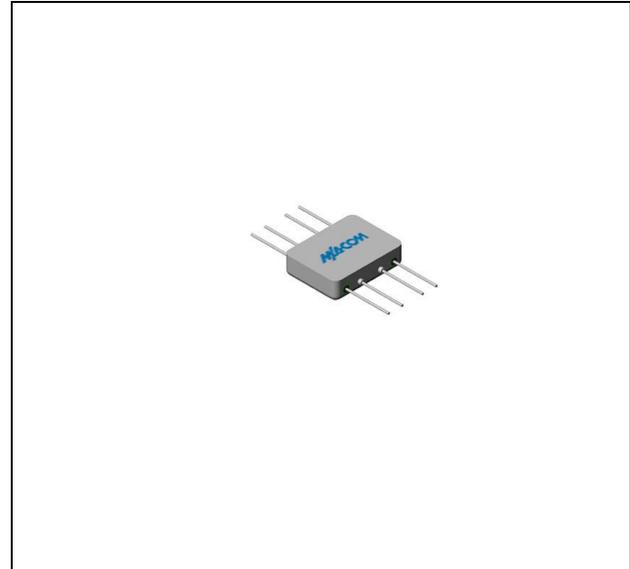
**Features**

- LO 50 TO 5000 MHz
- RF 50 TO 5000 MHz
- IF 50 TO 3000 MHz
- LO DRIVE +10 dBm (NOMINAL)
- INSENSITIVE TO SYSTEM LOAD MISMATCH
- HIGH INTERCEPT: +18 dBm (TYP.)

**Description**

The M5T is a termination insensitive mixer, designed for use in military, commercial 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. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in semi-automated and automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

**Product Image**



**Ordering Information**

Part Number	Package
M5T	Flatpack

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

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	$fR = 0.05$ to $1.5$ GHz, $fL = 0.05$ to $1.5$ GHz, $fI = 0.05$ to $1.5$ GHz	dB	7.2	8.5	9.2
	$fR = 1.5$ to $3$ GHz, $fL = 1.5$ to $3$ GHz, $fI = 0.05$ to $3.0$ GHz	dB	8.0	9.0	9.7
	$fR = 3.0$ to $5.0$ GHz, $fL = 3.0$ to $5.0$ GHz, $fI = 0.05$ to $3.0$ GHz	dB	9.0	11.3	12.0
Isolation, L to R (min)	$fL = 0.05$ to $1.0$ GHz	dB	35	25	23
	$fL = 1.0$ to $5.0$ GHz	dB	33	23	20
Isolation, L to I (min)	$fL = 0.05$ to $1.0$ GHz	dB	40	32	30
	$fL = 1.0$ to $5.0$ GHz	dB	35	22	20
Isolation, R to I (min)	$fR = 0.05$ to $5.0$ GHz	dB	33		
1 dB Conversion Comp.	$fL = +10$ dBm	dBm	+7		
Input IP3 (min.)	$fL = 0.05$ to $5.0$ GHz, $fR = 0.05$ to $5.0$ GHz, $fI = 0.05$ to $3.0$ GHz	dBm	+18		
VSWR	R-Port $fR = 0.05$ to $5.0$ GHz, L-Port $fL = 0.05$ to $5.0$ GHz, I-Port $fI = 0.05$ to $3.0$ GHz		2.0:1 1.8:1 1.5:1		

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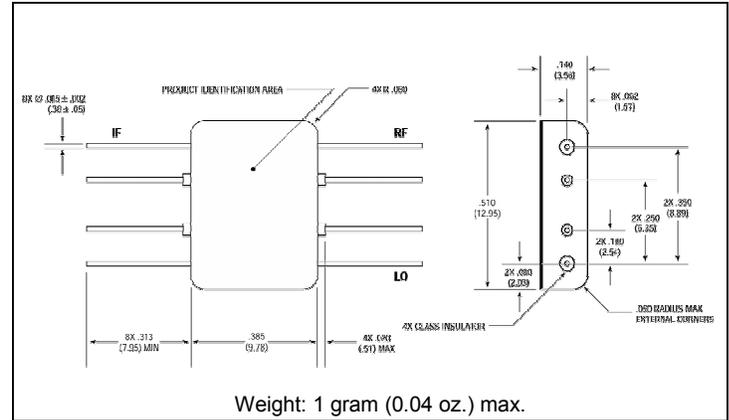
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**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+20 dBm max @ +25°C +17 dBm max @ +100°C
Peak Input Current	50 mA DC

**Outline Drawing: Flatpack \***



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