SM5T

Wideband Load Insensitive Mixer

Rev. 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 SM5T 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
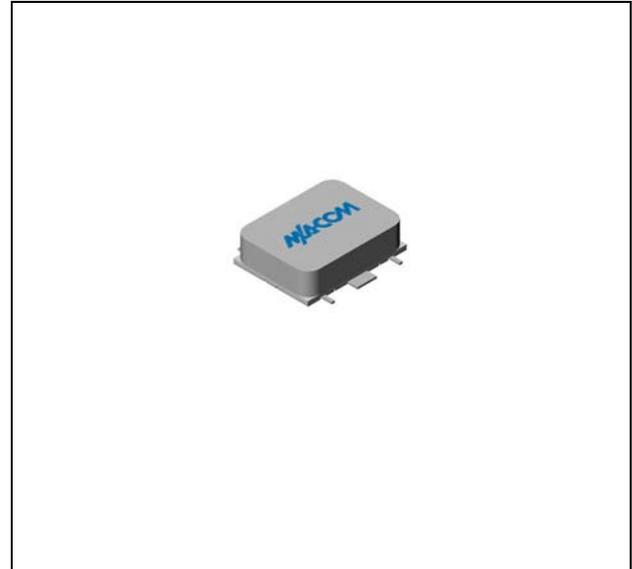
Ordering Information

Part Number	Package
SM5T	Surface Mount

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

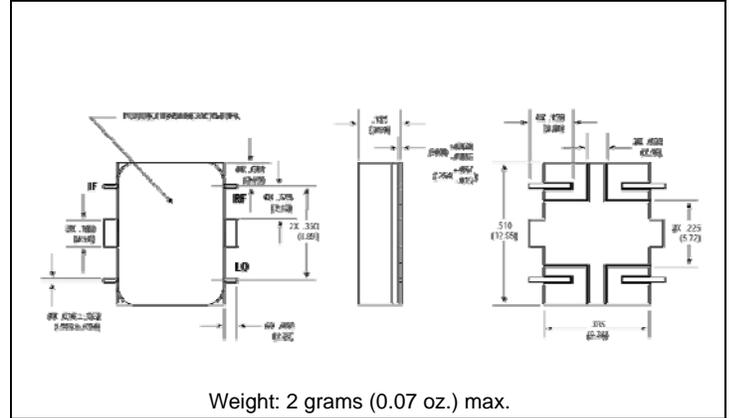| Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-40º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 0.05 to 1.5 GHz, fL = 0.05 to 1.5 GHz, fI = 0.05 to 1.5 GHz fR = 1.5 to 3.0 GHz, fL = 1.5 to 3.0 GHz, fI = 0.05 to 3.0 GHz fR = 3.0 to 5.0 GHz, fL = 3.0 to 5.0 GHz, fI = 0.05 to 3.0 GHz	dB dB dB	6.9 7.5 8.5	8.3 8.8 10.5	9.0 9.5 11.2
Isolation, L to R (min)	fL = 0.05 to 1.0 GHz fL = 1.0 to 5.0 GHz	dB dB	35 33	25 23	23 21
Isolation, L to I (min)	fL = 0.05 to 1.0 GHz fL = 1.0 to 5.0 GHz	dB dB	40 35	32 25	30 23
Isolation, R to I (min)	fR = 0.05 to 5.0 GHz	dB	32		
1 dB Conversion Comp.	fL = +10 dBm	dBm	+7		
Input IP3	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		1.8:1 1.6:1 1.4:1		

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Absolute Maximum Ratings

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

Outline Drawing: Surface Mount *

Weight: 2 grams (0.07 oz.) max.

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

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