

Load Insensitive Mixer

SM4T17

V3

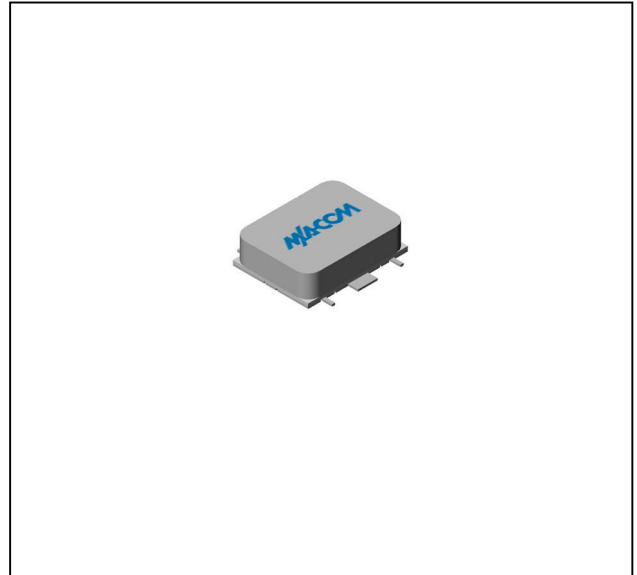
Features

- LO 1 TO 3400 MHz
- RF 1 TO 3400 MHz
- IF 1 TO 2000 MHz
- LO DRIVE: +17 dBm (NOMINAL)
- INSENSITIVE TO SYSTEM MISMATCH
- HIGH INTERCEPT: +24 dBm (TYP.)
- +260°C REFLOW COMPATIBLE

Description

The SM4T17 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
SM4T17	Surface Mount

Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +17$ dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-40° to +85°C
SSB Conversion Loss (max)	$f_R = 0.005$ to 1 GHz, $f_L = 0.005$ to 1 GHz, $f_I = 0.001$ to 0.5 GHz	dB	6.5	7.5	7.8
	$f_R = 0.001$ to 3 GHz, $f_L = 0.001$ to 3 GHz, $f_I = 0.001$ to 1.5 GHz	dB	8.0	9.0	9.3
	$f_R = 0.001$ to 3.4 GHz, $f_L = 0.001$ to 3.4 GHz, $f_I = 0.001$ to 2 GHz	dB	9.0	10.5	10.8
SSB Noise Figure		dB	Within 1 dB of conversion loss		
Isolation, L to R (min)	$f_L = 0.01$ to 1.5 GHz	dB	40	35	34
	$f_L = 0.01$ to 3.4 GHz	dB	30	25	24
Isolation, L to I (min)	$f_L = 0.01$ to 1.5 GHz	dB	40	35	34
	$f_L = 0.01$ to 3.4 GHz	dB	30	25	24
Isolation, R to I (min)	$f_R = 0.01$ to 3.4 GHz	dB	25		
1 dB Conversion Comp.	$f_L = +17$ dBm	dBm	+13		
Input IP3	$f_{R1} = 1.9$ GHz @ 10 dBm, $f_{R2} = 1.91$ GHz @ 10 dBm, $f_L = 2$ GHz @ 17 dBm	dBm	+24		

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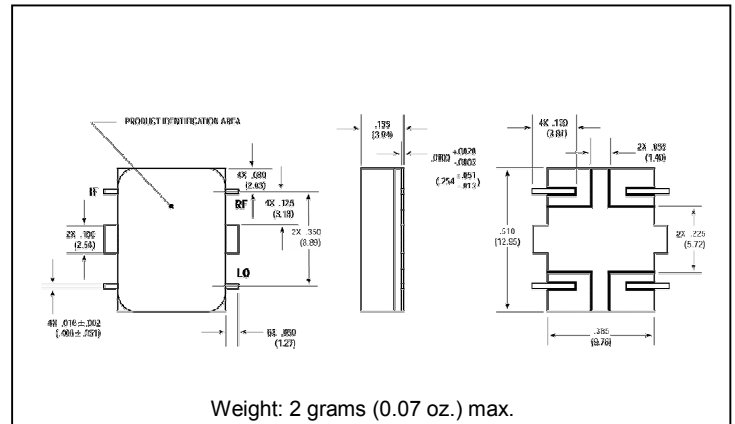
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Absolute Maximum Ratings

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: Surface Mount *



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