

Load Insensitive Mixer

Rev. 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

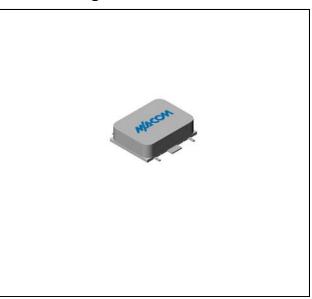
Description

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.

Ordering Information

Part Number	Package
SM4T17	Surface Mount

Product Image



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

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

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Commitment to produce in volume is not guaranteed.

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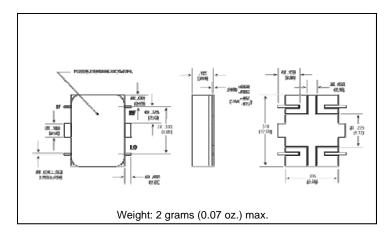
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Absolute Maximum Ratings

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.

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