

Wideband Load Insensitive Mixer

Rev. V2

Features

- LO 50 TO 5000 MHz
- RF 50 TO 5000 MHz
- IF 50 TO 3000 MHz
- LO DRIVE +17 dBm (NOMINAL)
- INSENSITIVE TO SYSTEM LOAD MISMATCH
- HIGH INTERCEPT: +24 dBm (TYP.)

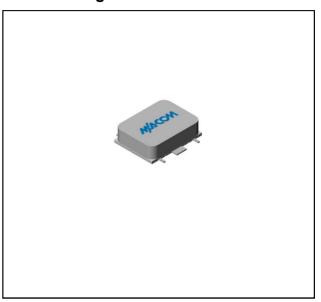
Description

The SM5T17 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.



Part Number	Package
SM5T17	Surface Mount

Product Image



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

Downwater	Took Conditions	Units	Typical	Guaranteed	
Parameter	Test Conditions			+25°C	-40° 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, fl = 0.05 to 1.5 GHz fR = 1.5 to 3.0 GHz, fL = 1.5 to 3.0 GHz, fl = 0.05 to 3.0 GHz fR = 3.0 to 5.0 GHz, fL = 3.0 to 5.0 GHz, fl = 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 = +17 dBm	dBm	+13		
Input IP3	fL = 0.05 to 5.0 GHz, fR = 0.05 to 5.0 GHz, fI = 0.05 to 3.0 GHz	dBm	+24		
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		1.6:1 1.5:1 1.4:1		



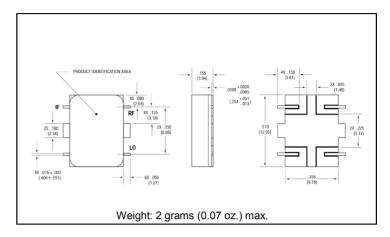
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Absolute Maximum Ratings

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.

SM5T17



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