

## **Termination Insensitive Mixer**



Rev. V5

#### Features

- LO 1 to 3400 MHz
- RF 1 to 3400 MHz
- IF 1 to 2000 MHz .
- LO Drive +17 dBm (nominal)
- High Intercept +25 dBm (typ)
- +260° Reflow Compatible

## Description

The CSM4T17 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.

## **Ordering Information**

Part Number	Package	
CSM4T17	Surface Mount	

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

Deremeter	Parameter Test Conditions		Typical	Guaranteed	
Parameter lest Conditions		Units		+25ºC	-40º to +85ºC
SSB Conversion Loss(max)	fR = 1 to 2400 MHz, fL = 1 to 2400 MHz, fI = 1 to 2000 MHz fR = 1 to 3400 MHz , fL = 1 to 3400 MHz , fI = 1 to 2000 MHz	dB	8.0 dB 9.0 dB	9.0 10.0	10.5 11.5
SSB Noise Figure		dB Within 1 dB of conversion loss			
L - R Isolation (min)	fL = 1 to 2400 MHz fL = 2400 to 3400 MHz	dB	35 25	25 20	23 18
L - I Isolation (min)	fL = 1 to 2400 MHz fL = 2400 to 3400 MHz	dB	35 25	25 20	23 18
R - I Isolation (min)	fR = 1 to 3400 MHz	dB	30		
1 dB Conversion Comp.	fL= +17 dBm	dBm	+14		
Input IP3	fR1 = 100 to 3400 MHz, $fR2$ = 100 to 3400 MHz, $fL$ = 50 to 2000 MHz	dBm	+25		
R-Port VSWR	fR = 1 to 3400 MHz		2.0:1		
L-Port VSWR	fL = 1 to 3400 MHz		2.0:1		
I-Port VSWR	fl = 1 to 2000 MHz		2.0:1		

<sup>1</sup> 

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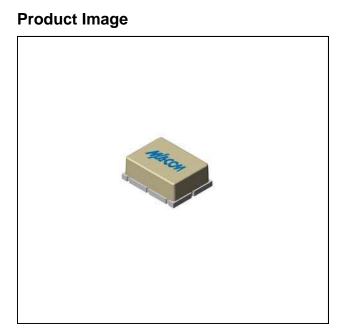
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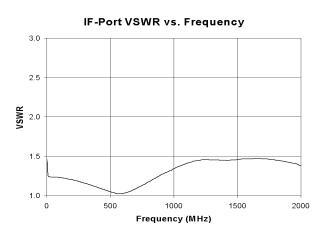
# **CSM4T17**

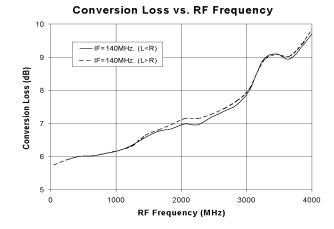
## **Termination Insensitive Mixer**



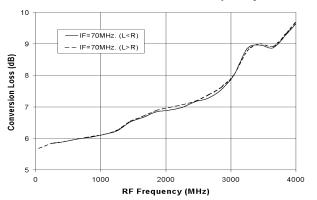
Rev. V5

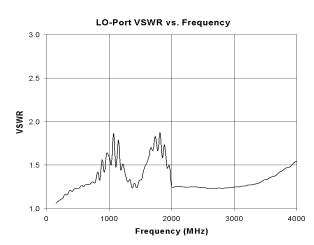
### **Typical Performance Curves**



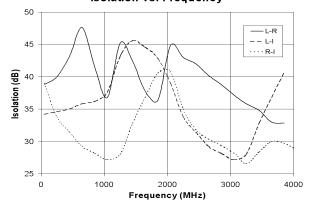


Conversion Loss vs. RF Frequency





Isolation vs. Frequency



RF-Port VSWR vs. Frequency

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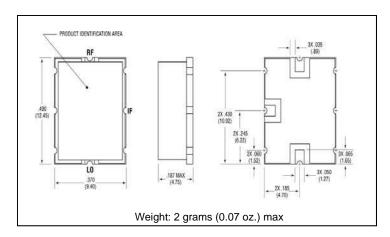
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## Outline Drawing: Surface Mount



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

#### **Absolute Maximum Ratings**

Parameter	Absolute Maximum	
Operating Temperature	-40°C to +85°C	
Storage Temperature	-65°C to +100°C	
Peak Input Power	+20 dBm max @ +25°C +17 dBm max @ +85°C	
Peak Input Current	50 mA DC	

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