### **Termination Insensitive Mixer**



Rev. V3

#### Features

- LO 1 TO 3400 MHz
- RF 1 TO 3400 MHz
- IF 1 TO 2000 MHz
- LO DRIVE +23 dBm (NOMINAL)
- HIGH INTERCEPT +29 dBm (TYP.)

#### Description

The CSM4TH 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. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in semi-automated and automated assembly. Environmental screening available to MIL-STD-883, MIL-STD -202, or MIL-DTL-28837, consult factory.

### **Ordering Information**

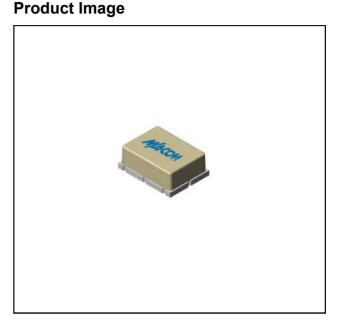
Part Number	Package
CSM4TH	Surface Mount

### Electrical Specifications: $Z_0 = 50\Omega$ Lo = +23 dBm (Downconverter application only)

Devementer	Test Conditions	Linita	Typical	Typical Guaranteed	
Parameter Test Conditions		Units		+25⁰C	-40° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 1 to 2400 MHz, fL = 1 to 2400 MHz, fl = 1 to 2000 MHz fR = 1 to 3400 MHz , fL = 1 to 3400 MHz , fL = 1 to 3400 MHz , fl = 1 to 2000 MHz	dB dB	8.0 9.0	9.5 10.5	10.0 11.0
L - R Isolation (min)	fL = 1 to 2400 MHz fL = 2400 to 3400 MHz	dB	35 25	26 20	24 18
L - I Isolation (min)	fL = 1 to 2400 MHz fL = 2400 to 3400 MHz	dB	38 25	27 20	25 18
R - I Isolation (min)	fR = 1 to 3400 MHz	dB	25		
1 dB Conversion Comp.	fL= +23 dBm	dBm	+19		
Input IP3	fL = 100 to 3400 MHz, fl = 50 to 2000 MHz, fR = 100 to 3400 MHz	dBm	+28		
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		

1

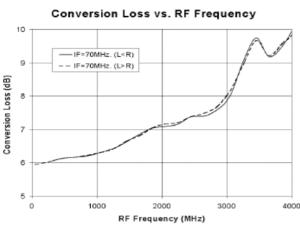
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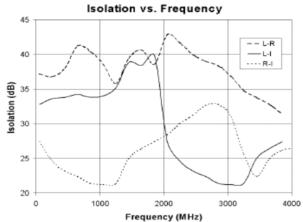


# CSM4TH

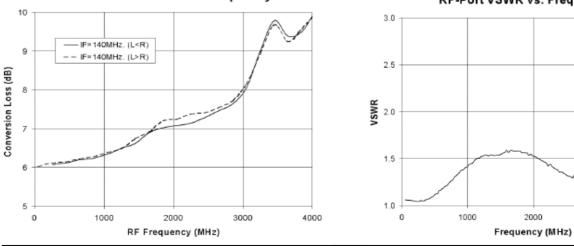
## **Termination Insensitive Mixer**

**Typical Performance Curves** 

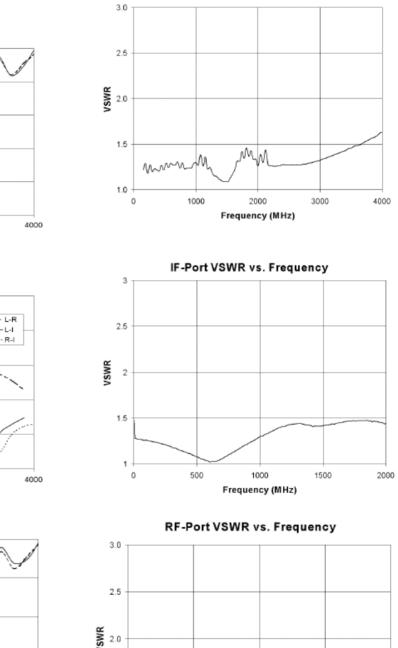








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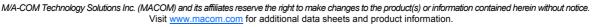


2000

3000

4000

2





LO-Port VSWR vs. Frequency

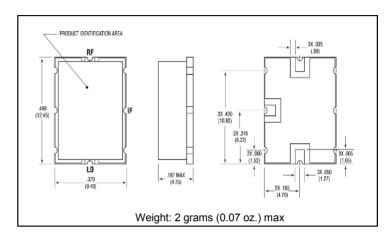
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## Outline Drawing: Surface Mount \*



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

#### **Absolute Maximum Ratings**

Parameter	Absolute Maximum		
Operating Temperature	-54°C to +85°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+26 dBm max @ +25℃ +23 dBm max @ +85℃		
Peak Input Current	50 mA DC		

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