

## Termination Insensitive Mixer

Rev. V5

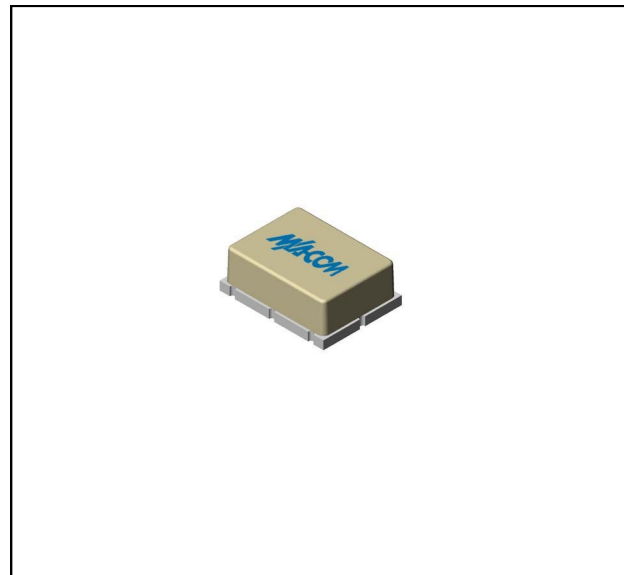
### Features

- LO 1 TO 3400 MHz
- RF 1 TO 3400 MHz
- IF 1 TO 2000 MHz
- LO DRIVE +10 dBm (NOMINAL)
- HIGH INTERCEPT +18 dBm (TYP.)
- +260°C REFLOW COMPATIBLE

### Description

The CSM4T 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.

### Product Image



### Ordering Information

| Part Number | Package       |
|-------------|---------------|
| CSM4T       | Surface Mount |

### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ dBm (Downconverter application only)

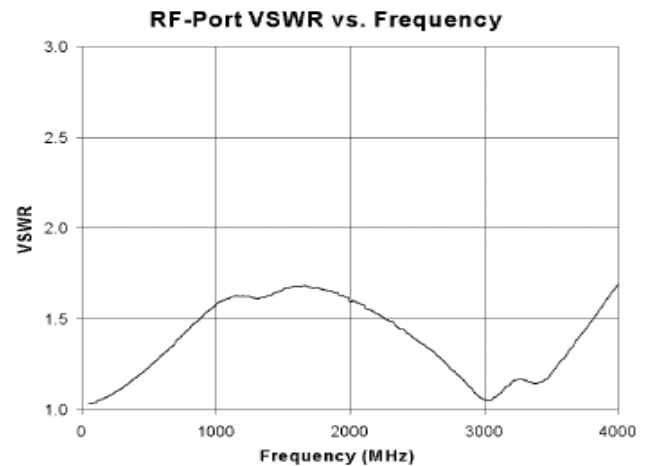
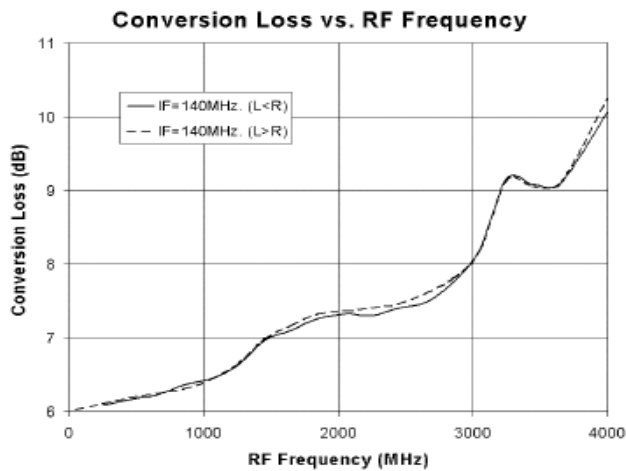
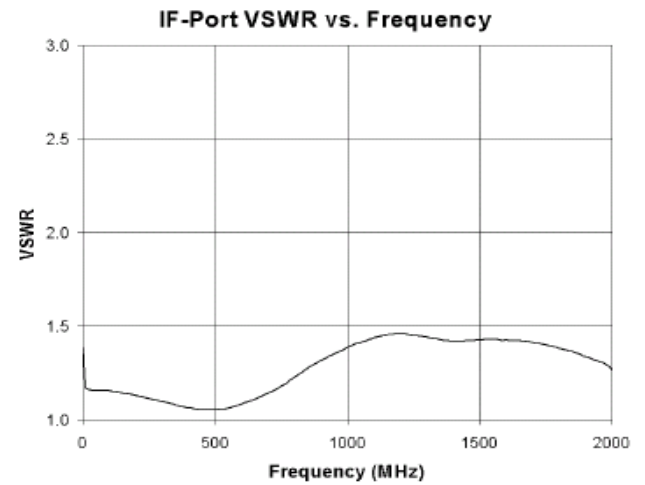
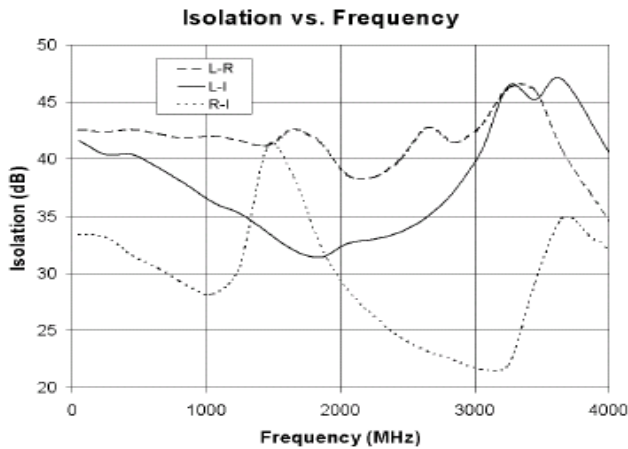
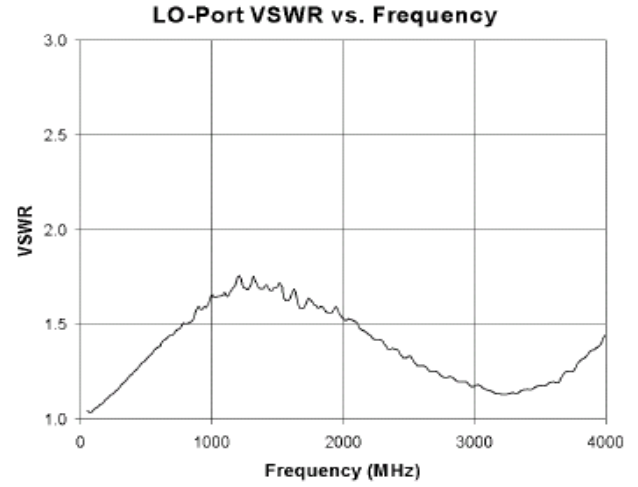
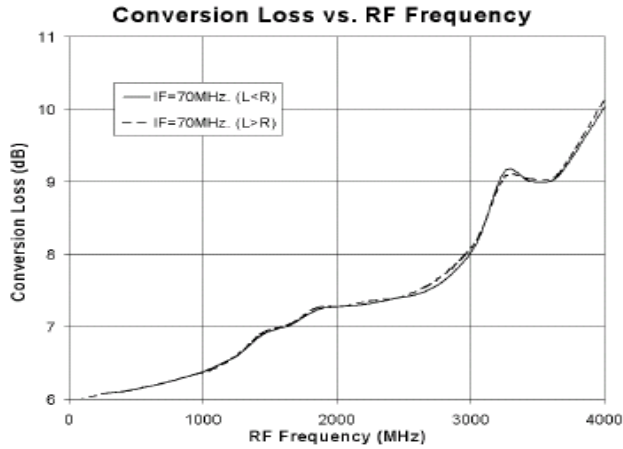
| Parameter                | Test Conditions  | Units | Typical                        | Guaranteed |               |
|--------------------------|--|-------|--------------------------------|------------|---------------|
|                          |  |       |                                | +25°C      | -40° to +85°C |
| SSB Conversion Loss(max) | fR = 1 to 2400 MHz, fL = 1 to 2400 MHz, fI = 1 to 2000 MHz<br>fR = 1 to 3400 MHz, fL = 1 to 3400 MHz, fI = 1 to 2000 MHz | dB    | 8.0                            | 9.0        | 10.5          |
|                          |  |       | 9.0                            | 10.0       | 11.5          |
| SSB Noise Figure         |  | dB    | Within 1 dB of conversion loss |            |               |
| L - R Isolation (min)    | fL = 1 to 2400 MHz<br>fL = 2400 to 3400 MHz  | dB    | 35                             | 25         | 24            |
|                          |  |       | 25                             | 20         | 18            |
| L - I Isolation (min)    | fL = 1 to 2400 MHz<br>fL = 2400 to 3400 MHz  | dB    | 35                             | 25         | 23            |
|                          |  |       | 25                             | 20         | 18            |
| R - I Isolation (min)    | fR = 1 to 3400 MHz   | dB    | 25                             |            |               |
| 1 dB Conversion Comp.    | fL = +10 dBm   | dBm   | +7                             |            |               |
| Input IP3                | fL = 100 to 3400 MHz, fI = 50 to 2000 MHz, fR = 100 to 3400 MHz  | dBm   | +18                            |            |               |
| 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              | fI = 1 to 2000 MHz   |       | 2.0:1                          |            |               |

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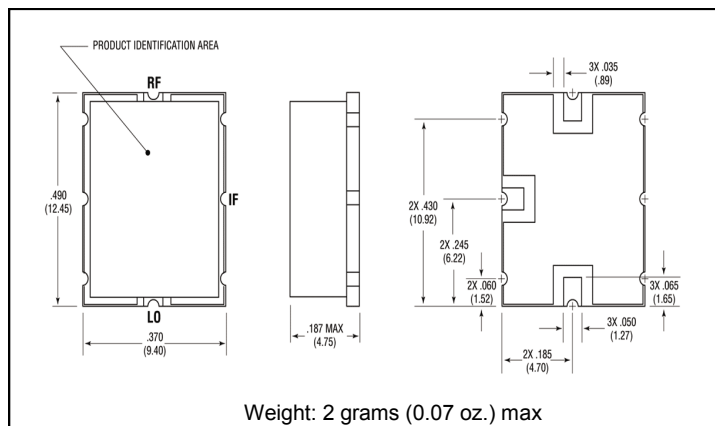
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### Typical Performance Curves



### Outline Drawing: Surface Mount \*



\* Dimensions are inches (millimeters)  $\pm 0.015$  (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      | +13 dBm max @ +25°C<br>+10 dBm max @ +85°C |
| Peak Input Current    | 50 mA DC                                   |

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