

## Wide Band Termination Insensitive Mixer

Rev. V2

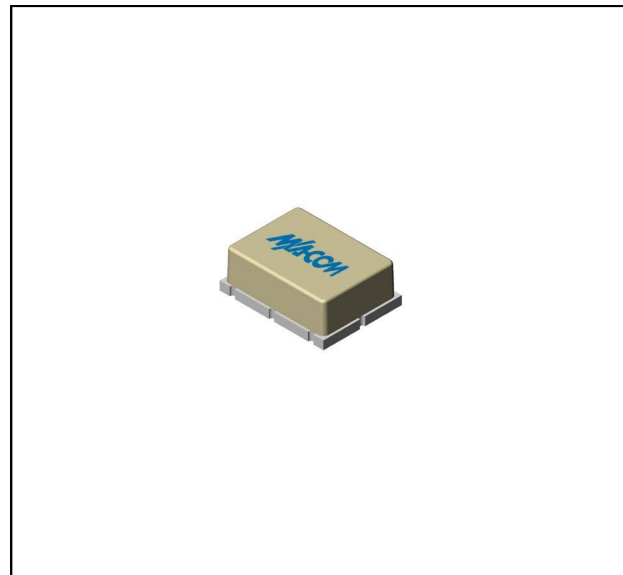
### Features

- LO 50 TO 4800 MHz
- RF 50 TO 4800 MHz
- IF 50 TO 3000 MHz
- LO DRIVE +10 dBm (NOMINAL)
- HIGH INTERCEPT +18 dBm (TYP.)

### Description

The CSM5T 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.

### Product Image



### Ordering Information

| Part Number | Package       |
|-------------|---------------|
| CSM5T       | Surface Mount |

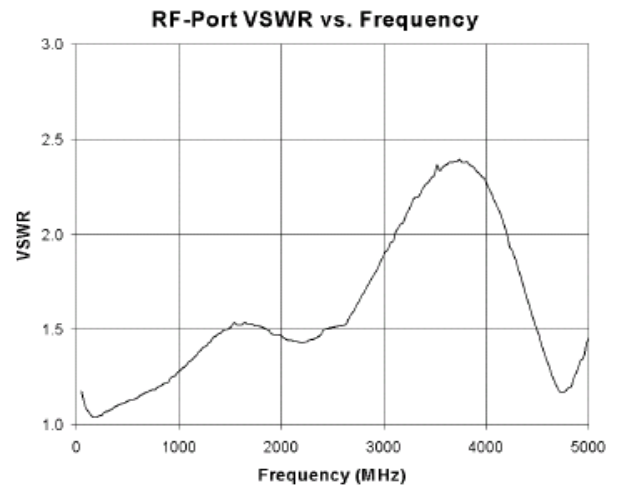
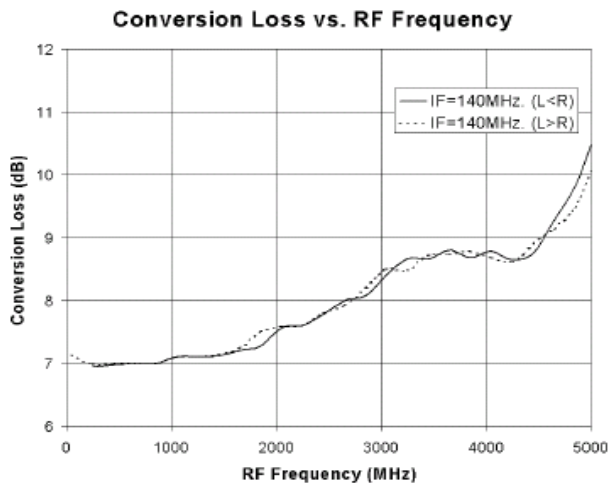
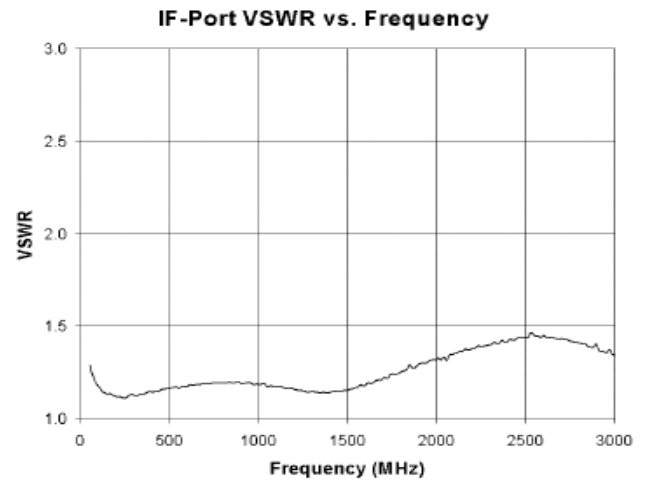
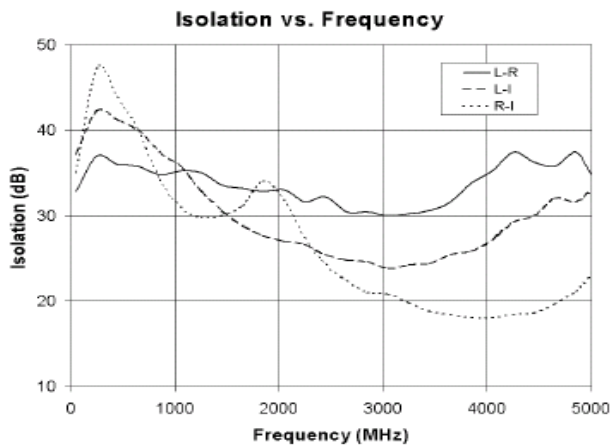
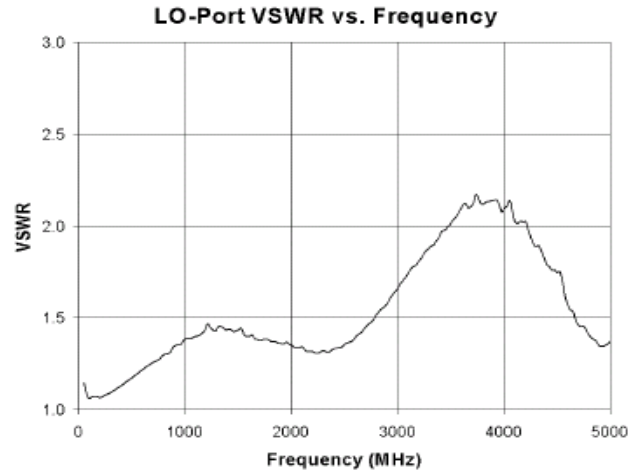
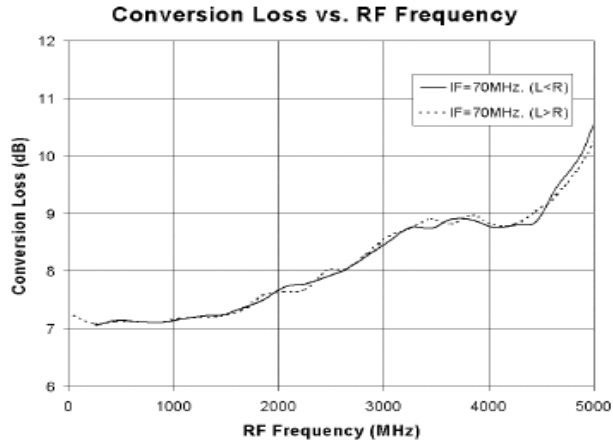
### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ dBm (Downconverter application only)

| Parameter  | Test Conditions  | Units | Typical | Guaranteed |               |
|--|--|-------|---------|------------|---------------|
|  |  |       |         | +25°C      | -40° to +85°C |
| SSB Conversion Loss (max) & 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 | dB    | 7.2     | 8.5        | 9.0           |
|  | fR = 1.5 to 3.0 GHz, fL = 1.5 to 3.0 GHz, fl = 0.05 to 3.0 GHz   | dB    | 8.0     | 9.3        | 9.8           |
|  | fR = 3.0 to 4.8 GHz, fL = 3.0 to 4.8 GHz, fl = 0.05 to 3.0 GHz   | dB    | 8.8     | 11.5       | 12.0          |
| L - R Isolation (min)                              | fL = 0.05 to 1.0 GHz   | dB    | 35      | 25         | 23            |
|  | fL = 1.0 to 4.8 GHz  | dB    | 32      | 23         | 21            |
| L - I Isolation (min)                              | fL = 0.05 to 1.0 GHz   | dB    | 40      | 32         | 30            |
|  | fL = 1.0 to 4.8 GHz  | dB    | 35      | 22         | 20            |
| R - I Isolation (min)                              | fR = 0.05 to 2.0 GHz   | dB    | 30      |            |               |
|  | fR = 2.0 to 4.8 GHz  | dB    | 20      |            |               |
| 1 dB Conversion Comp.                              | fL = +10 dBm   | dBm   | +7      |            |               |
| Input IP3  | fL = 0.5 to 4.8 GHz, fl = 0.05 to 2.5 GHz, fR = 0.5 to 4.8 GHz   | dBm   | +18     |            |               |
| R-Port VSWR  | fR = 0.05 to 4.8 GHz   |       | 2.0:1   |            |               |
| L-Port VSWR  | fL = 0.05 to 4.8 GHz   |       | 2.0:1   |            |               |
| I-Port VSWR  | fl = 0.05 to 3.0 GHz   |       | 2.0:1   |            |               |

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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      | +20 dBm max @ +25°C<br>+17 dBm max @ +85°C |
| Peak Input Current    | 50 mA DC                                   |

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