

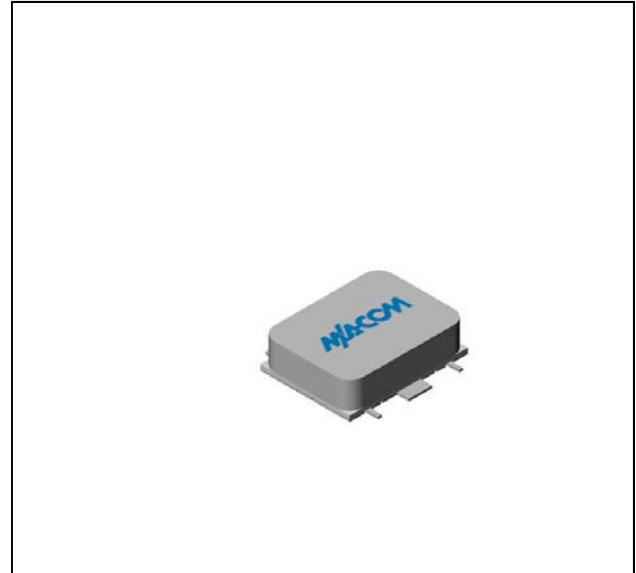
Features

- LO 1 TO 3400 MHz
- RF 1 TO 3400 MHz
- IF 1 TO 2000 MHz
- LO DRIVE: +23 dBm (NOMINAL)
- INSENSITIVE TO SYSTEM MISMATCH
- HIGH INTERCEPT: +29 dBm (TYP.)
- AVAILABLE IN SURFACE MOUNT
- +260°C REFLOW COMPATIBLE

Description

The SM4TH is a termination insensitive mixer, designed for use in military, commercial 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.

Product Image



Ordering Information

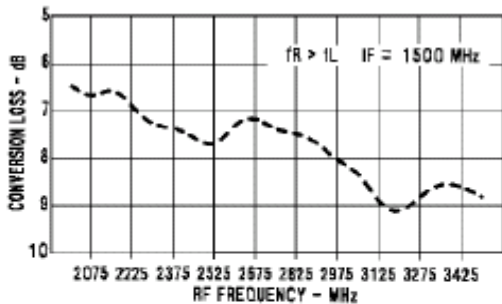
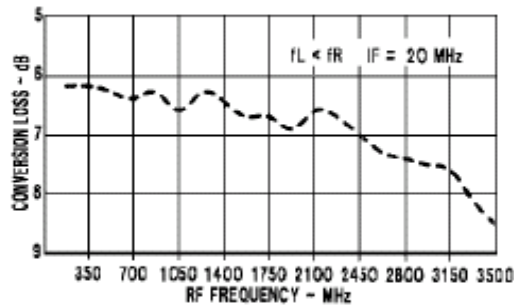
| Part Number | Package |
|-------------|---------------|
| SM4TH | Surface Mount |
| | |

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

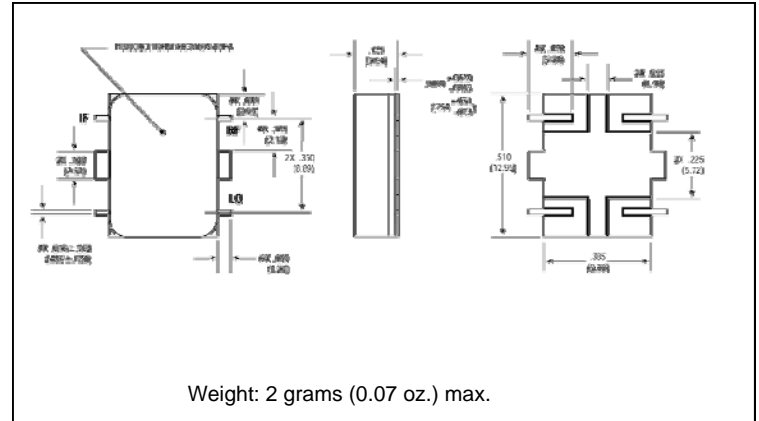
| Parameter | Test Conditions | Units | Typical | Guaranteed | |
|--|--|----------|---------|------------|---------------|
| | | | | +25°C | -54° to +85°C |
| SSB Conversion Loss (max) & SSB Noise Figure (max) | fR = 0.005 to 2.0 GHz, fL = 0.005 to 2.0 GHz, fl = 0.001 to 0.5 GHz fR = 0.001 to 3.4 GHz, fL = 0.001 to 3.4 GHz, fl = 0.001 to 2.0 GHz | dB dB | 7.0 | 8.0 | 8.5 |
| | | | 9.0 | 10.5 | 11.0 |
| Isolation, L to R (min) | fL = 0.01 to 1.5 GHz fL = 0.01 to 3.4 GHz | dB dB | 35 | 30 | 29 |
| | | | 35 | 22 | 21 |
| Isolation, L to I (min) | fL = 0.01 to 1.5 GHz fL = 0.01 to 3.4 GHz | dB dB | 40 | 30 | 29 |
| | | | 35 | 25 | 24 |
| Isolation, R to I (min) | fR = 0.001 to 3.4 GHz | dB | 21 | | |
| 1 dB Conversion Comp. | fL = +23 dBm | dBm | +17 | | |
| Input IP3 | fR1 = 2 GHz at 0 dBm, fR2 = 2.01 GHz at 0 dBm, fL = 1.9 GHz at +23 dBm | dBm | +29 | | |

Typical Performance Curves

Conversion Loss vs. Frequency



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 +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 |