

Low Cost High IP3 Mixer for PCS/WLL Applications

Rev. V3

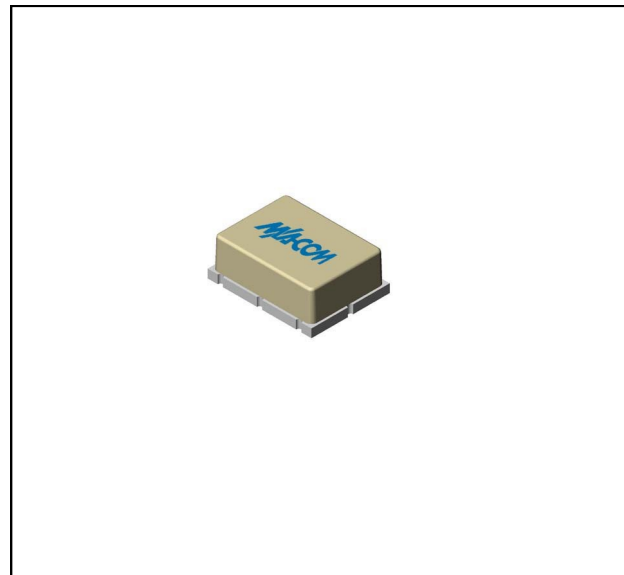
Features

- LO & RF 10 TO 2800 MHz
- IF 10 TO 2000 MHz
- LO DRIVE +13 dBm (NOMINAL)
- SURFACE MOUNT
- HIGH INTERCEPT +22 dBm (TYP.)
- +260°C REFLOW COMPATIBLE

Description

The CSM2-13 is a double balanced mixer, designed for use in the high volume wireless applications. The design utilizes Schottky ring quad diodes and broadband baluns to attain excellent performance.

Product Image



Ordering Information

| Part Number | Package |
|-------------|---------------|
| CSM2-13 | Surface Mount |

Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +13$ dBm (Downconverter application only)

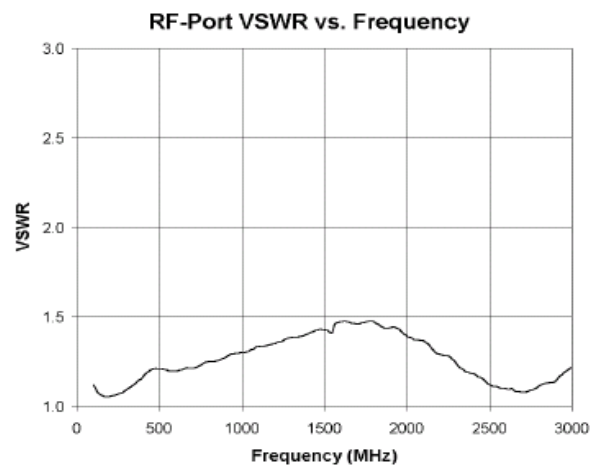
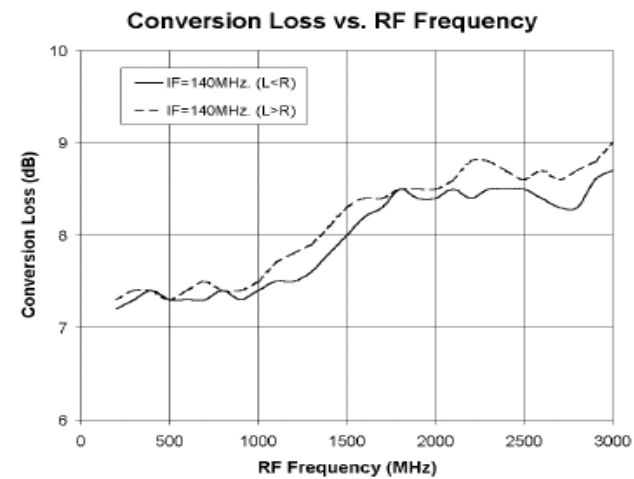
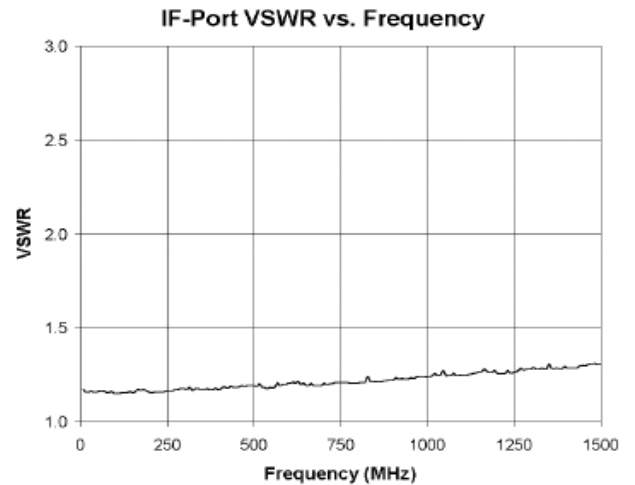
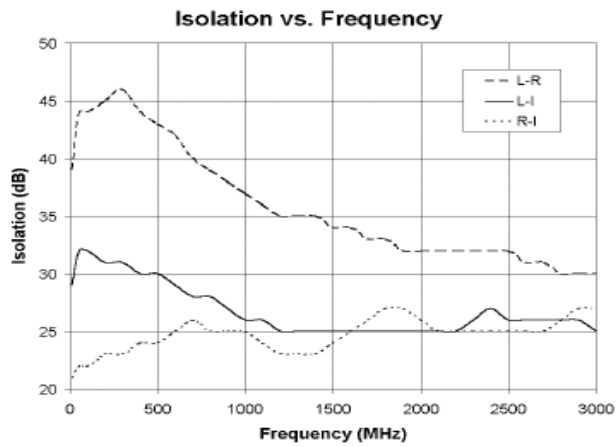
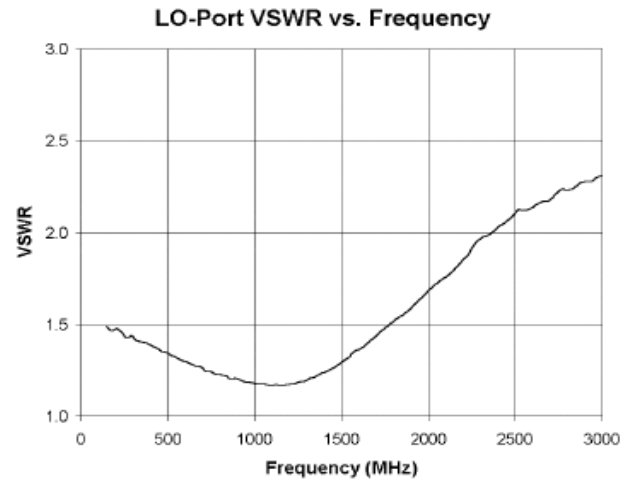
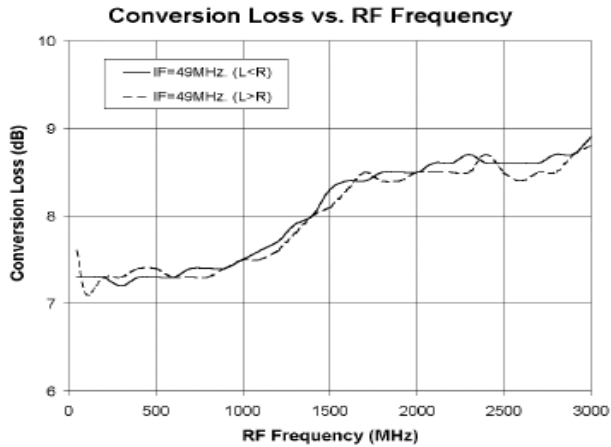
| Parameter | Test Conditions | Units | Typical | Guaranteed | |
|--------------------------|--|-------|--------------------------------|------------|---------------|
| | | | | +25°C | -40° to +85°C |
| SSB Conversion Loss(max) | fR = 10 to 1200 MHz, fL = 10 to 1200 MHz, fi = 10 to 1000 MHz fR = 1200 to 2800 MHz, fL = 1200 to 2800 MHz, fi = 10 to 2000 MHz | dB | 7.5 | 8.0 | 8.5 |
| | | | 9.0 | 10.0 | 10.5 |
| SSB Noise Figure | | dB | Within 1 dB of conversion loss | | |
| L - R Isolation (min) | fL = 10 to 1200 MHz fL = 1200 to 2800 MHz | dB | 35 | 32 | 30 |
| | | | 30 | 28 | 26 |
| L - I Isolation (min) | fL = 10 to 2800 MHz | dB | 25 | 23 | 21 |
| R - I Isolation (min) | fR = 10 to 2800 MHz | dB | 21 | | |
| 1 dB Conversion Comp. | fL = +13 dBm | dBm | +10 | | |
| Input IP3 | fL = 10 to 2000 MHz, fi = 10 to 1000 MHz, fR = 10 to 2000 MHz fL = 2000 to 2800 MHz, fi = 10 to 2000 MHz, fR = 2000 to 2800 MHz | dBm | +22 | | |
| | | | +20 | | |
| R-Port VSWR | fR = 10 to 2800 MHz | | 1.7:1 | | |
| L-Port VSWR | fL = 10 to 2000 MHz fL = 2000 to 2800 MHz | | 2.0:1 | | |
| | | | 2.5:1 | | |
| I-Port VSWR | fi = 10 to 2000 MHz | | 1.8:1 | | |

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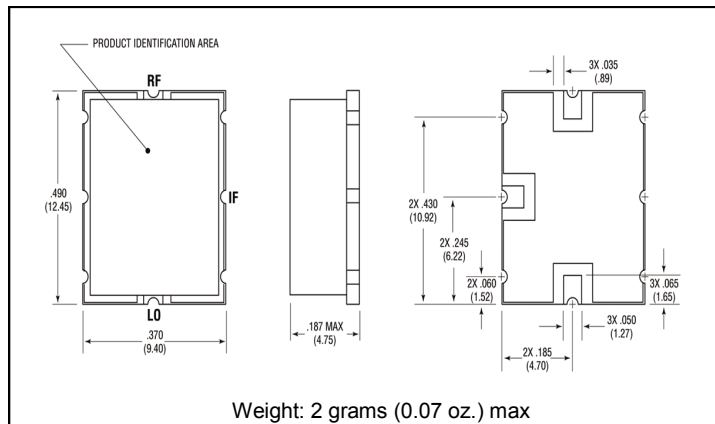
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Typical Performance Curves



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