

Low Cost High IP3 Mixer for **Cellular Applications**

Rev. V2

Features

- LO & RF 800 to 1000 MHz
- IF 1 to 150 MHz
- LO Drive +13 dBm (nominal)
- Surface Mount
- High Intercept +22 dBm (typ)

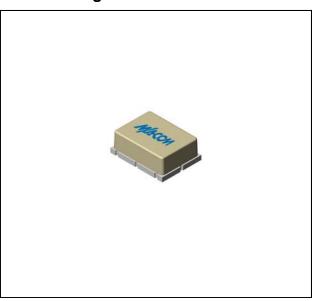
Description

The CSM11-13 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. The use of high temperature solder assembly processes used internally makes it ideal for use in semi-automated and automated assembly.

Ordering Information

| Part Number | Package |
|-------------|---------------|
| CSM11-13 | Surface Mount |

Product Image



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

| Danamatan | Double Conditions | | Typical | Guaranteed | |
|----------------------------------|---|-------|---------|------------|---------------|
| Parameter Test Conditions | | Units | | +25°C | -40° to +85°C |
| SSB Conversion Loss (max) | fR = 800 to 1000 MHz, fL = 800 to 1000 MHz, fI = 1 to 150 MHz | dB | 7.5 dB | 8.5 | 9.0 |
| SSB Noise Figure (max) | Within 1 dB of conversion loss | | | | |
| L - R Isolation (min) | fL = 800 to 1000 MHz | dB | 35 | 30 | 28 |
| L - I Isolation (min) | fL = 800 to 1000 MHz | dB | 35 | 30 | 28 |
| R - I Isolation (min) | fR = 800 to 1000 MHz | dB | 25 | | |
| 1 dB Conversion Comp | fL = +13 dBm | dBm | +10 | | |
| Input IP3 | fR1 = 800 to 1000 MHz, fR2 = 800 to 1000 MHz, fL = 1 to 150 MHz | dBm | +22 | | |
| R-Port VSWR fR = 800 to 1000 MHz | | | 2.5:1 | | |
| L-Port VSWR | fL = 800 to 1000 MHz | | 2.0:1 | | |
| I-Port VSWR | fl = 10 to 150 MHz | | 1.75:1 | | |

Commitment to produce in volume is not guaranteed.

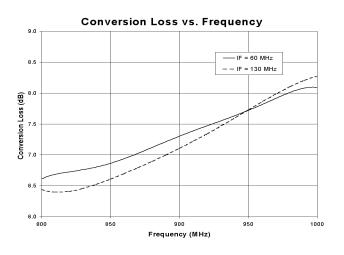
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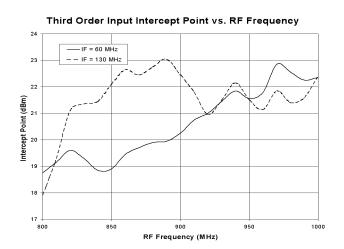


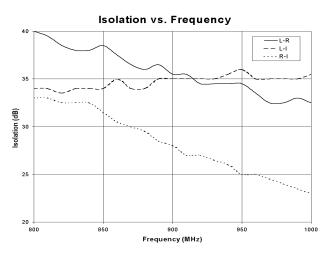
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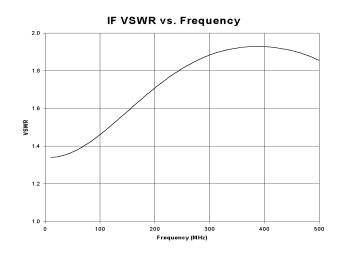
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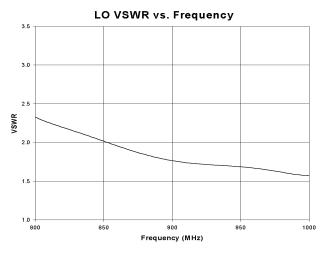
Typical Performance Curves



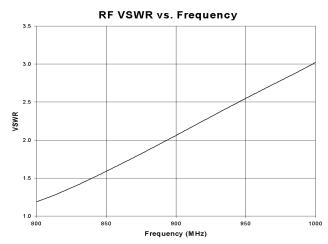








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ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology

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Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available.

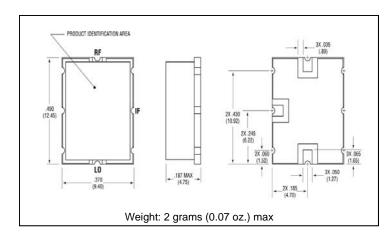
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Outline Drawing: Surface Mount *



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

Absolute Maximum Ratings

| Parameter | Absolute Maximum | | |
|-----------------------|--|--|--|
| Operating Temperature | -40°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 | | |

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