

## Double-Balanced Mixer

Rev. V2

### Features

- LO 800 TO 3500 MHz
- RF 1000 TO 2200 MHz
- IF DC TO 1500 MHz
- LO DRIVE +7 dBm (nominal)
- HIGH ISOLATION 30 dB (TYP.)

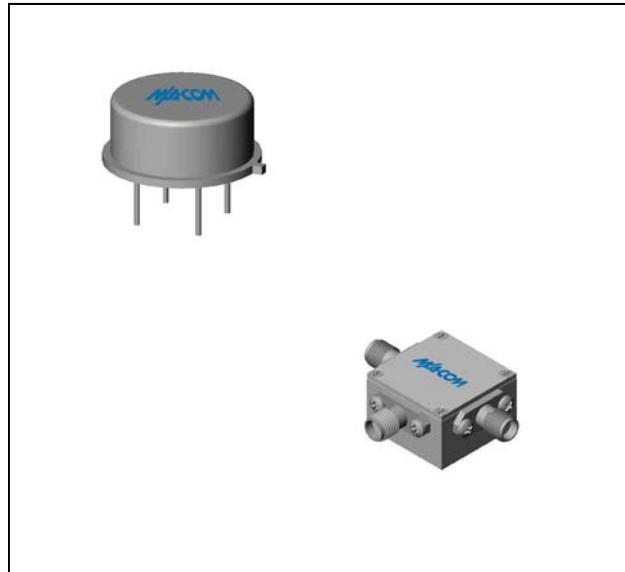
### Description

The M2G is a double balanced mixer, designed for use in military, commercial, and test equipment applications. The design utilizes Schottky ring quad diodes and broadband ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. Environmental screening is available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

### Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| M2G         | TO-8              |
| M2GC        | SMA Connectorized |

### Product Image



### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +7$ 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 = 1000 to 2200 MHz, fL = 800 to 3500 MHz, fI = 10 to 1500 MHz       | dB    | 8.0     | 9.5        | 10.0            |
| Isolation, L to R (min)                            | fL = 800 to 2000 MHz<br>fL = 2000 to 3000 MHz<br>fL = 3000 to 3500 MHz | dB    | 40      | 25         | 23              |
| Isolation, L to I (min)                            | fL = 800 to 3500 MHz   | dB    | 25      | 20         | 18              |
| 1 dB Conversion Comp.                              |  |       |         |            |                 |
| Input IP3  |  |       |         |            |                 |

\* The M2GC specification limits apply at 0°C to +50°C.

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Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

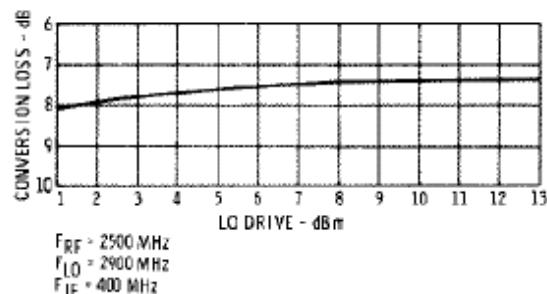
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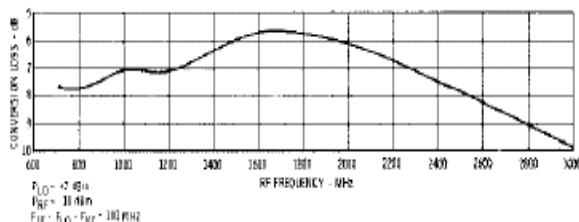
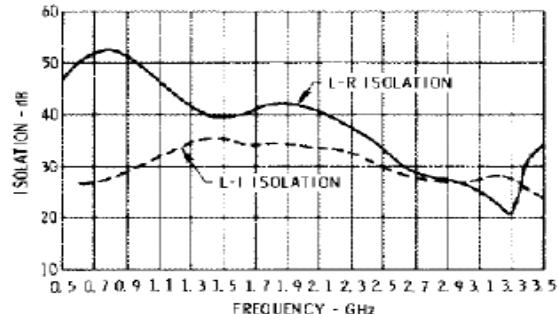
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### Typical Performance Curves

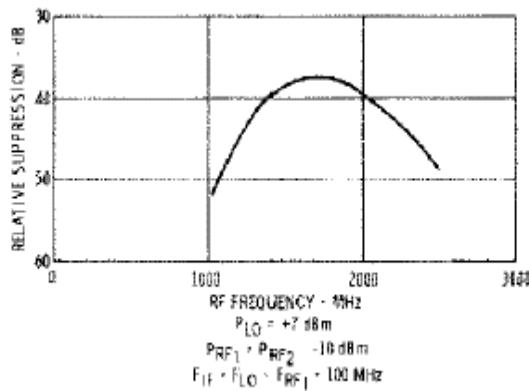
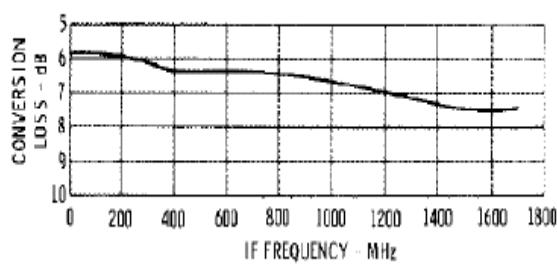
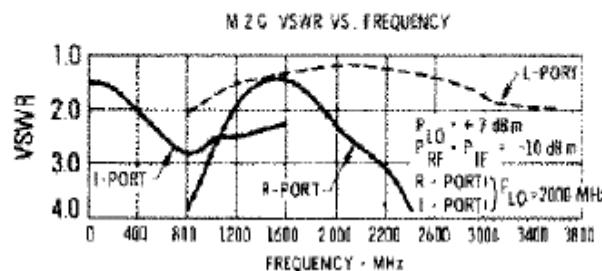
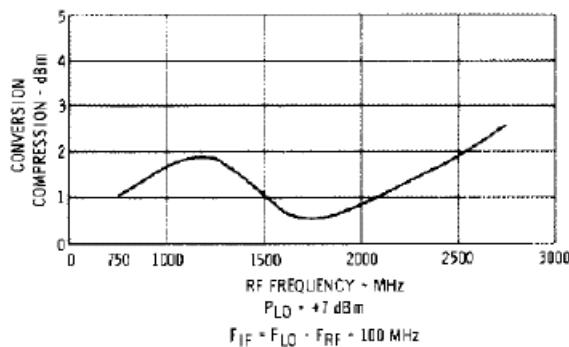
#### Conversion Loss



#### Isolation



#### VSWR



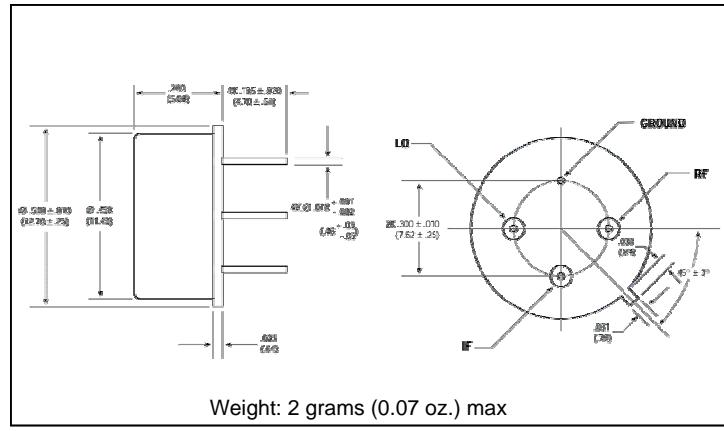
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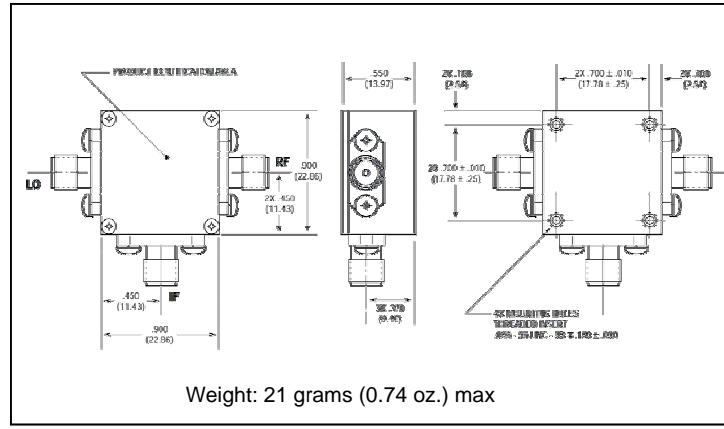
### Absolute Maximum Ratings

| Parameter             | Absolute Maximum                            |
|-----------------------|---|
| Operating Temperature | -54°C to +100°C                             |
| Storage Temperature   | -65°C to +100°C                             |
| Peak Input Power      | +23 dBm max @ +25°C<br>+17 dBm max @ +100°C |
| Peak Input Current    | 50 mA DC                                    |

### Outline Drawing: TO-8 \*



### Outline Drawing: SMA Connectorized \*



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