M2G / M2GC

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.)

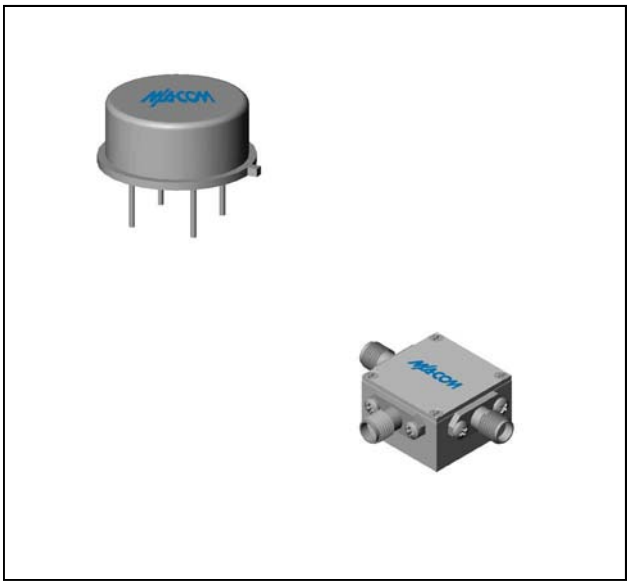
Description

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 = 50Ω Lo = +7 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC *
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 fL = 2000 to 3000 MHz fL = 3000 to 3500 MHz	dB dB dB	40 25 20	25 20 17	23 18 18
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 0ºC to +50ºC.

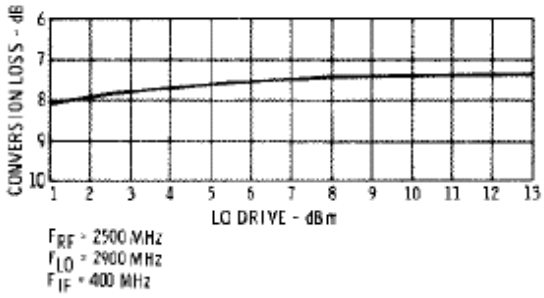
ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information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

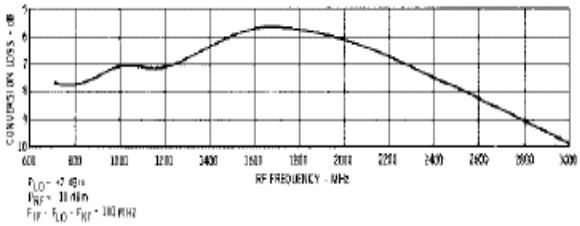
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

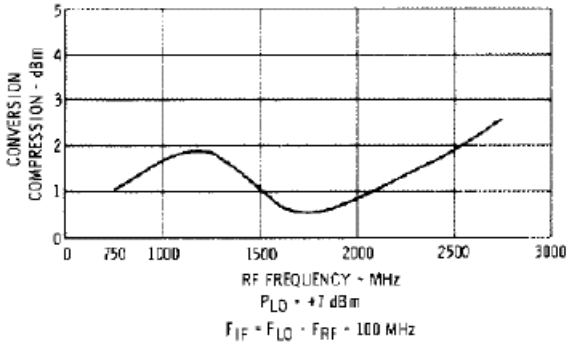
M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

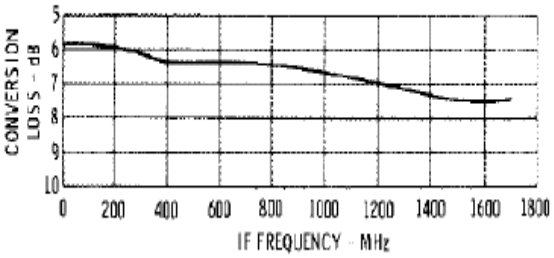
Typical Performance Curves

Conversion Loss

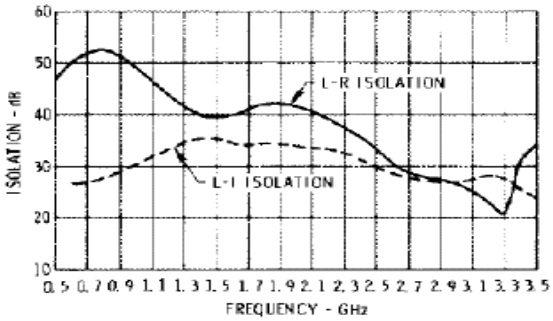




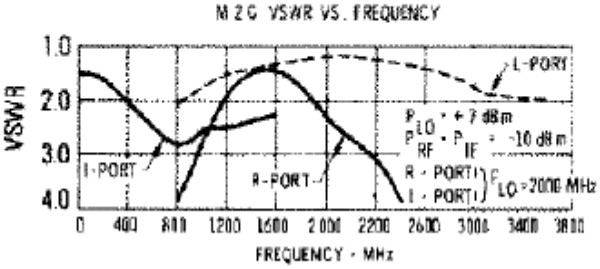


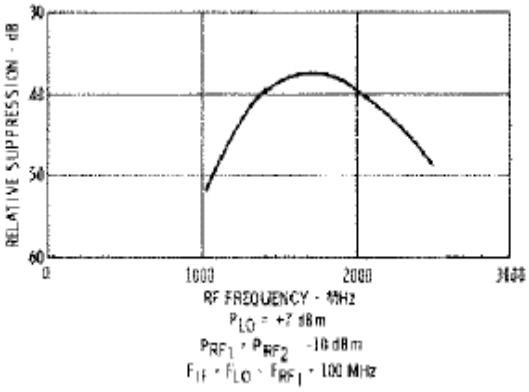


Isolation



VSWR





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 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. Commitment to produce in volume is not guaranteed.

- **North America** Tel: 800.366.2266
- **Europe** Tel: +353.21.244.6400
- **India** Tel: +91.80.4155721
- **China** Tel: +86.21.2407.1588

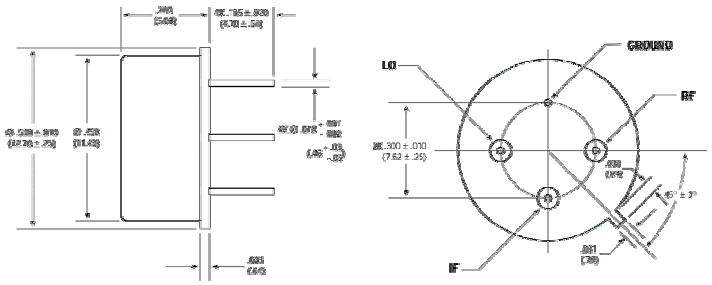
Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

Absolute Maximum Ratings

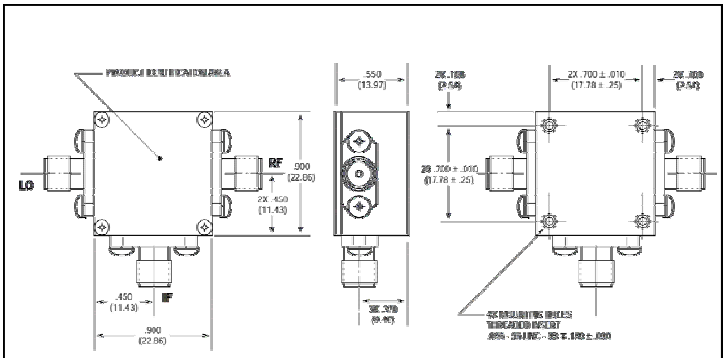
Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+23 dBm max @ +25ºC +17 dBm max @ +100ºC
Peak Input Current	50 mA DC

Outline Drawing: TO-8 *



Weight: 2 grams (0.07 oz.) max

Outline Drawing: SMA Connectorized *



Weight: 21 grams (0.74 oz.) max

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

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 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. Commitment to produce in volume is not guaranteed.

• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.