QH01-0016-G

Tyco Electronics

Low Cost GMIC SMT Quad Hybrid
800 - 905 MHz

M/A-COM Products
Rev. 3

Features

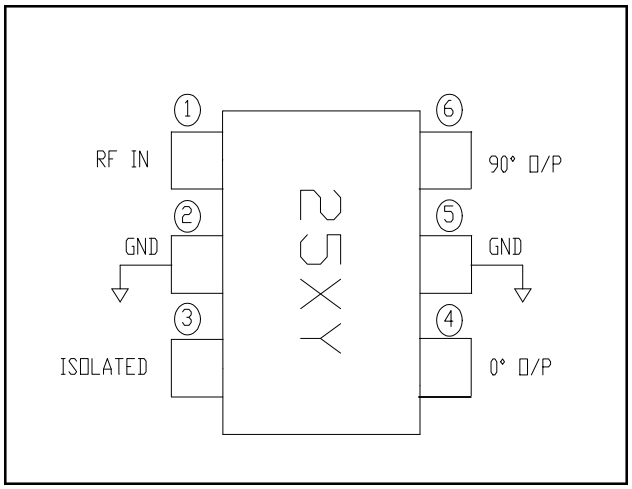
- Small Size and Low Profile
- Typical Insertion Loss 0.7 dB
- Typical Amplitude Balance 0.3 dB
- 1 Watt Power Handling
- SOT-26 Package

Description

M/A-COM's QH01-0016-G is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOT-26 plastic package. This Quad Hybrid is ideally suited for applications where small size, low insertion loss, superior phase/amplitude tracking and low cost are required. Typical applications include base station switching networks and other cellular applications where size and PCB real estate are at a premium. Available in Tape and Reel.

The QH01-0016-G is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram



Pin Configuration

Pin No.	Function	Pin No.	Function
1	RF IN	4	0° OUTPUT
2	GND	5	GND
3	ISOLATED	6	90° OUTPUT

Ordering Information

Part Number	Package
QH01-0016-G	Bulk Packaging
QH01-0016-G-TR	1000 piece reel

Note: Reference Application Note M513 for reel size information.

• **North America** Tel: 800.366.2266 / Fax: 978.366.2266
• **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
• **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298
Visit www.macom.com for additional data sheets and product information.

Electrical Specifications: T_A = 25°C, Z_0 = 50Ω

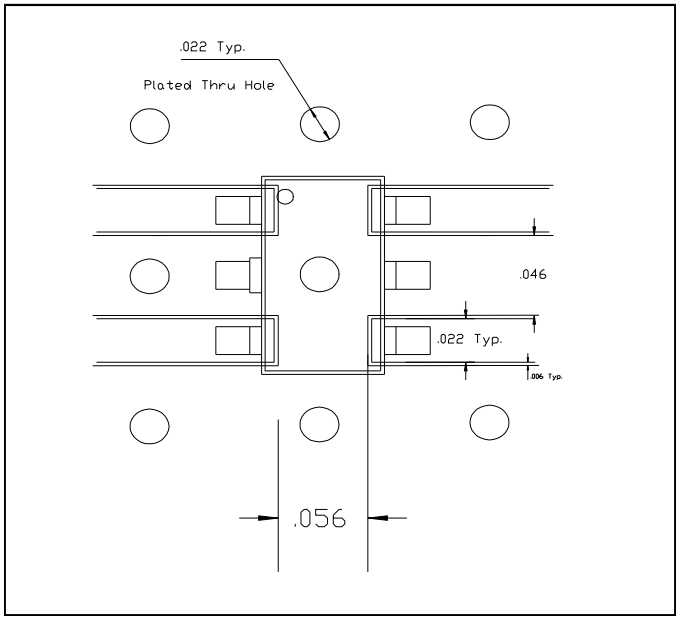
Parameter	Units	Min	Typ	Max
Insertion Loss above 3.0 dB	dB	—	0.7	1.2
Isolation	dB	14	17	—
VSWR Input RF1, RF2 Outputs	— —	— —	1.3:1 1.35:1	1.5:1 1.5:1
Amplitude Balance	dB	—	0.3	0.7
Phase Balance	Deg	—	1.5	6

Absolute Maximum Ratings [1,2]

Parameter	Absolute Maximum
Input Power[3]	1 W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.
3. With internal load dissipation of 0.125 W Maximum.

Recommended PCB Configuration



Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

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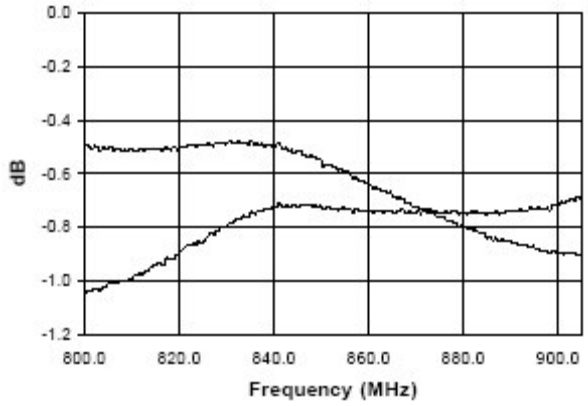
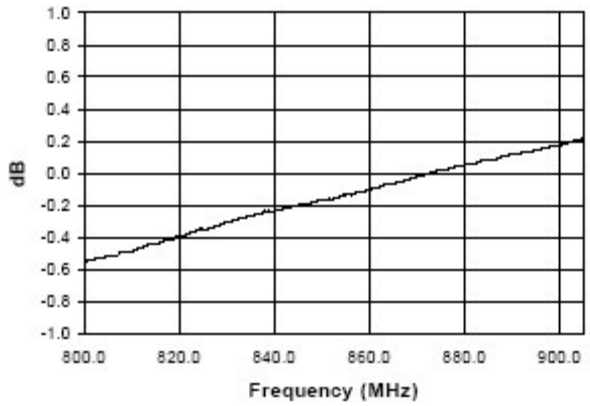
Typical Performance Curves @ 25ºC

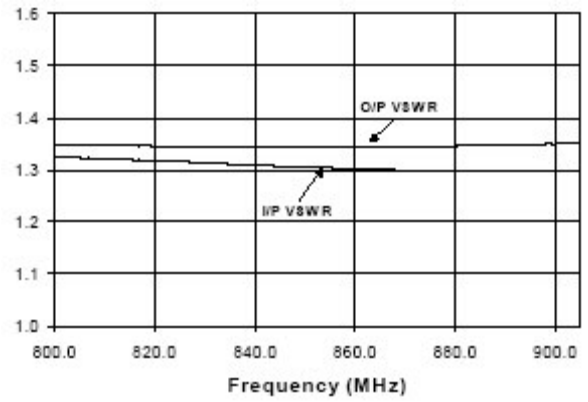
Insertion Loss vs. Frequency



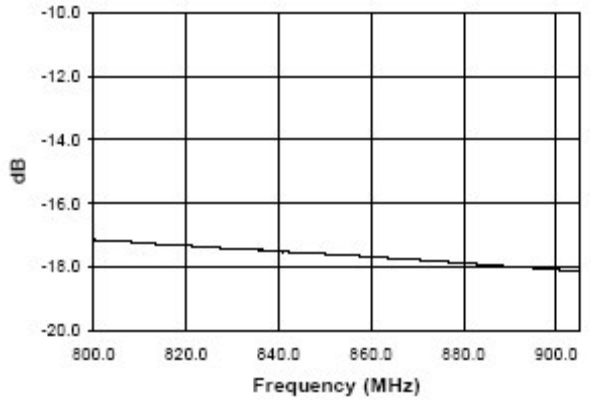
Amplitude Balance vs. Frequency



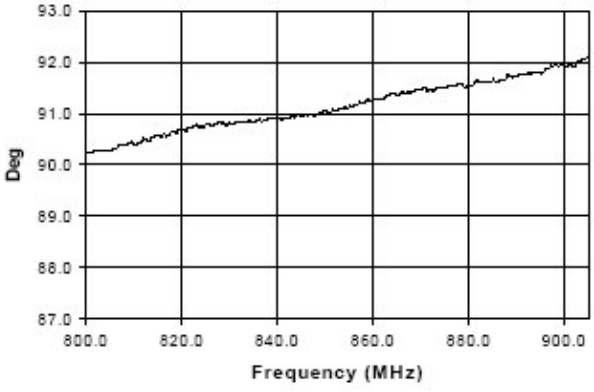
VSWR vs. Frequency



Isolation vs. Frequency



Phase Balance vs. Frequency



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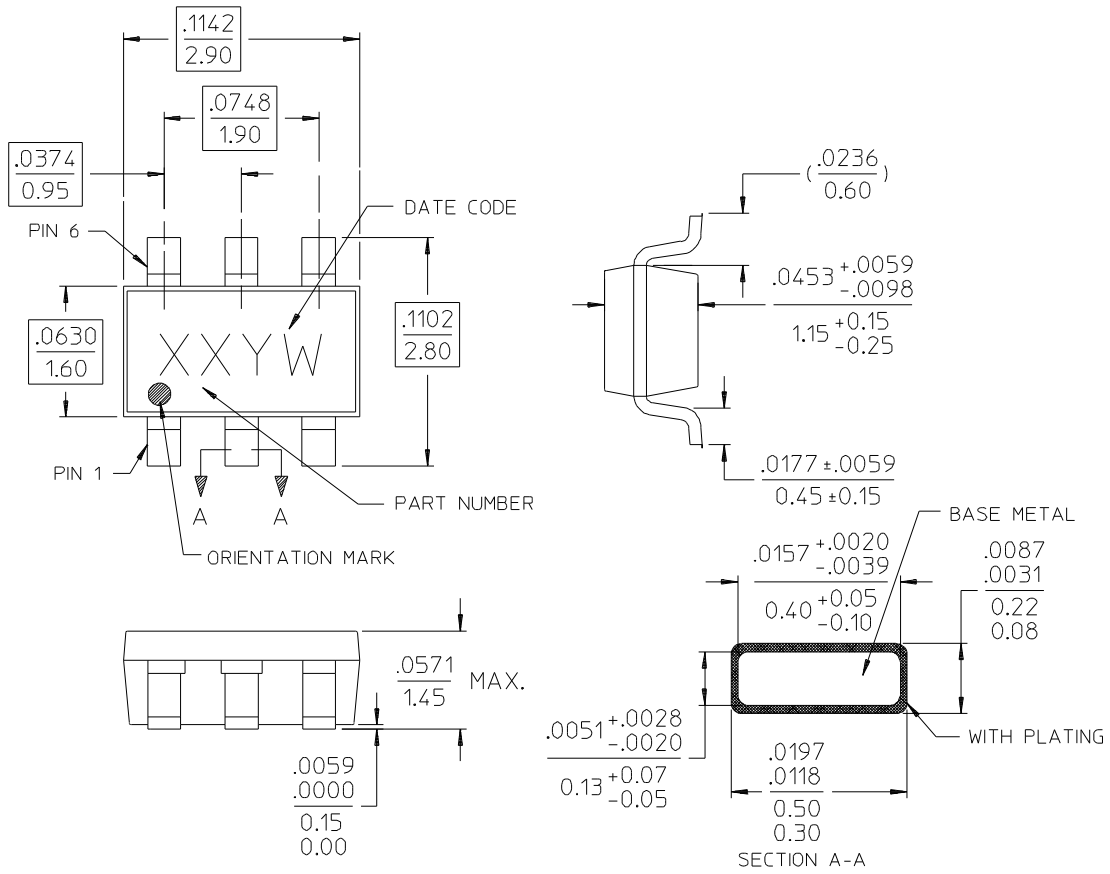
SOT-26†



NOTES: 1. REFERENCE JEDEC MO-178-AB FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.
2. REFERENCE M538 APPLICATION NOTE FOR PCB FOOTPRINT INFORMATION.
3. ALL DIMENSIONS SHOWN AS INCHES/MM.

† Reference Application Note M538 for lead-free solder reflow recommendations.