

Low Cost GMIC SMT Quad Hybrid 800 - 905 MHz

Rev. V3

#### **Features**

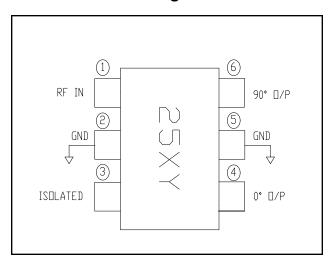
- Small Size and Low Profile
- Typical Insertion Loss 0.7 dB
- Typical Amplitude Balance 0.3 dB
- 1 Watt Power Handling
- SOT-26 Package

### **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. applications include base station switching networks and other cellular applications where size and PCB real estate are at a premium. Available in Tape and

The QH01-0016-G is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

#### **Functional Block Diagram**



## **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.

#### **Pin Configuration**

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

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# QH01-0016-G



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## Electrical Specifications: $T_A = 25$ °C, $Z_0 = 50\Omega$

Parameter	Units	Min	Тур	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 <sup>1,2</sup>**

Parameter	Absolute Maximum
Input Power <sup>3</sup>	1 W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

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

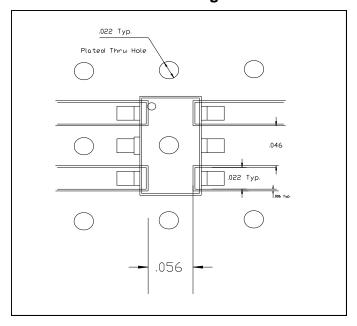
## **Handling Procedures**

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.

## **Recommended PCB Configuration**



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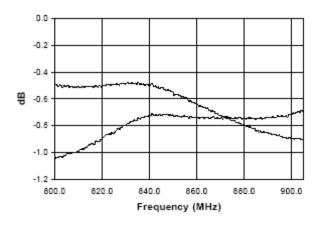


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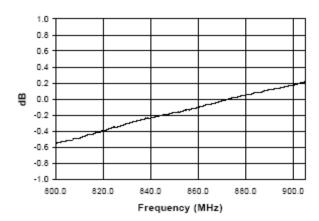
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## Typical Performance Curves @ 25°C

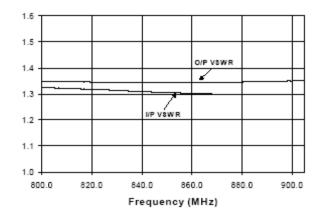
#### Insertion Loss vs. Frequency



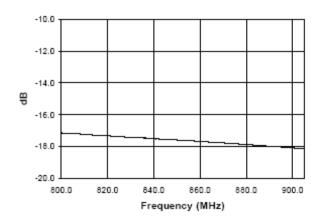
#### Amplitude Balance vs. Frequency



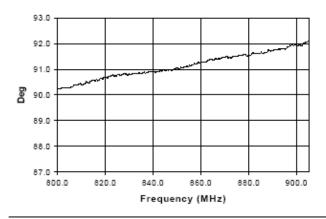
#### VSWR vs. Frequency



#### Isolation vs. Frequency



#### Phase Balance vs. Frequency



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

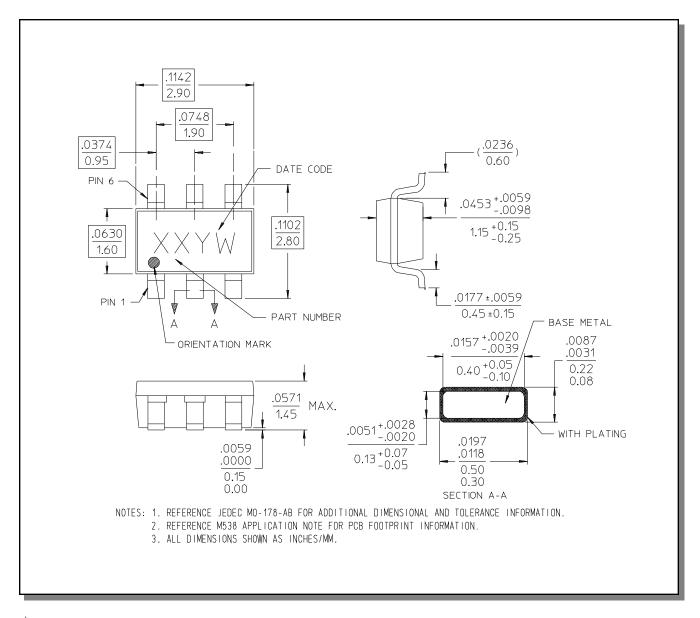
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## SOT-26<sup>†</sup>



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

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