

Features

- Small Size, Low Profile
- Superior Repeatability (Lot-to-lot Variation)
- Industry Standard SOW-16 SMT Plastic Package
- Typical Isolation: 25 dB
- Typical Insertion Loss: 0.3 dB
- Low Cost
- 1 Watt Power Handling
- SOW-16 Package

Description

M/A-COM's DS56-0001 is an IC-based monolithic power divider in a low cost SOW-16 plastic package. This 6-way power divider is ideally suited for applications where PCB real estate is at a premium and part count reduction and cost are critical. Typical applications include base station switching networks and other cellular equipment, including subscriber units. Available in tape and reel.

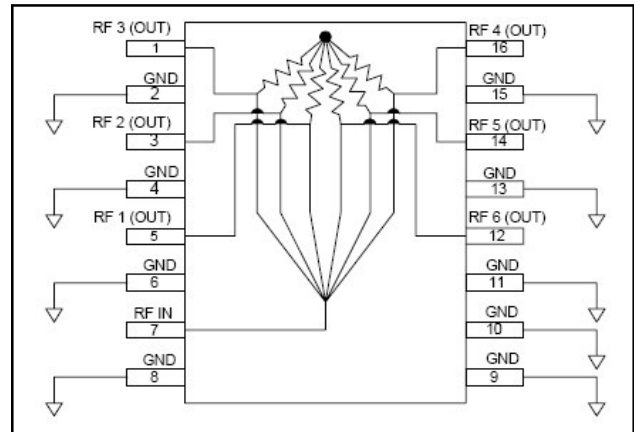
The DS56-0001 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Ordering Information

Part Number	Package
DS56-0001	Bulk Packaging
DS56-0001-TR	1000 piece reel
DS56-0001SAM	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Functional Diagram¹



1. Pins 2, 4, 6, 8, 9, 10, 11, 13, and 15 must be DC and RF grounded.

Pin Configuration

Pin No.	Function	Pin No.	Function
1	RF3 (OUT)	9	GND
2	GND	10	GND
3	RF2 (OUT)	11	GND
4	GND	12	RF6 (OUT)
5	RF1 (OUT)	13	GND
6	GND	14	RF5 (OUT)
7	RF IN	15	GND
8	GND	16	RF4 (OUT)

Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

Parameter	Units	Min	Typ	Max
Insertion Loss Above 7.8 dB	dB	—	1.3	1.5
Isolation	dB	20	25	—
VSWR	—	—	1.4:1	1.6:1
Amplitude Balance	dB	—	0.2	0.5
Phase Balance	Deg.	—	6	8

Absolute Maximum Ratings ^{2,3}

Parameter	Absolute Maximum
Input Power ⁴	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.
- With internal load dissipation of 0.125 W maximum.

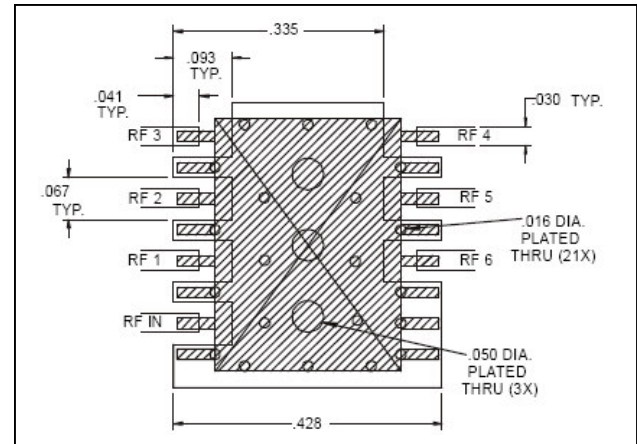
Handling Procedures

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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PRELIMINARY: Data Sheets contain information regarding a product M/A-COM 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.

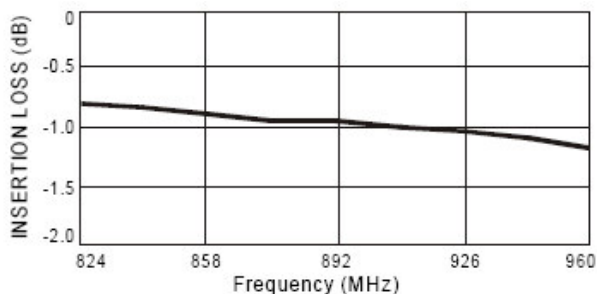
- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
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Visit www.macom.com for additional data sheets and product information.

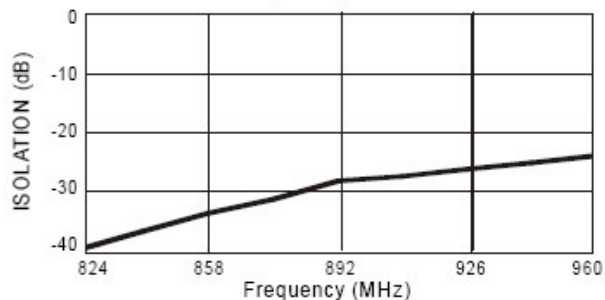
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Typical Performance Curves

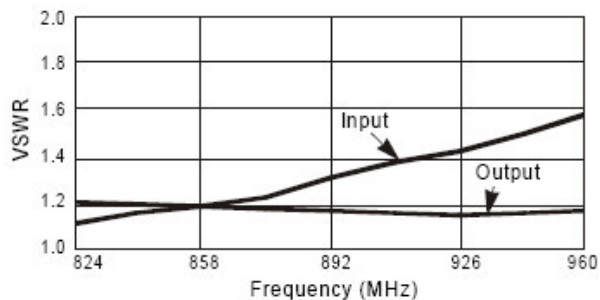
Insertion Loss vs. Frequency



Isolation vs. Frequency



VSWR vs. Frequency



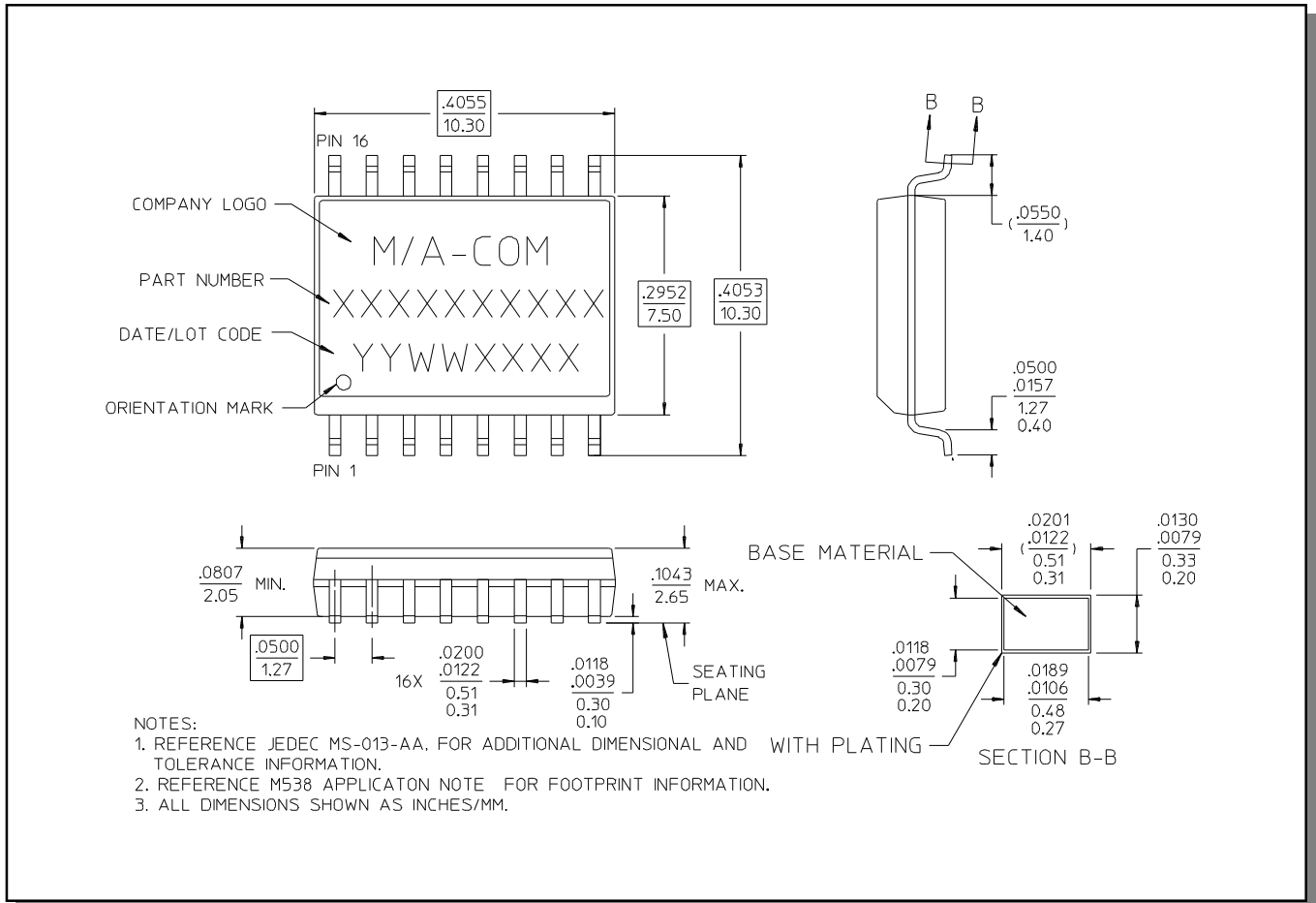
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SOW-16[†]



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