

Features

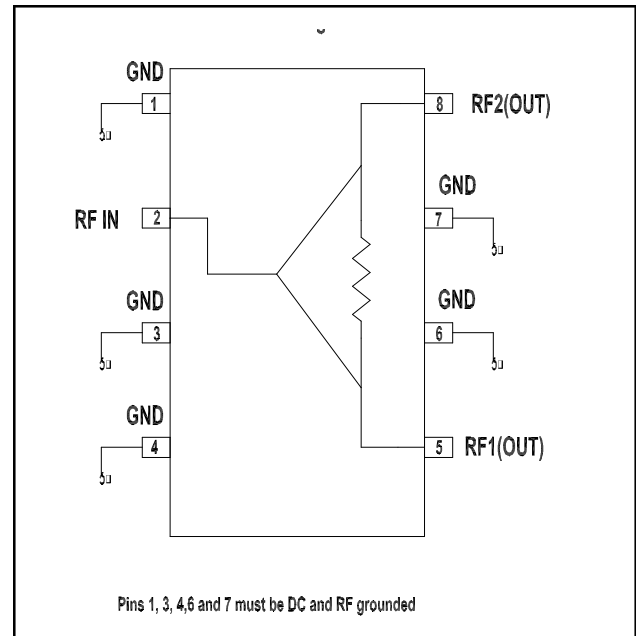
- Small Size and Low Profile
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.5 dB
- Typical Isolation 23 dB
- 1 Watt Power Handling
- SOIC-8 Package

Description

M/A-COM's DS52-0001 is an IC-based monolithic power divider in a low cost SOIC-8 plastic package. This 2-way power divider 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 communication applications where size and PCB real estate are a premium. Available in tape and reel.

The DS52-0001 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram



Ordering Information

Part Number	Package
DS52-0001	Bulk Packaging
DS52-0001TR	1000 piece reel
DS52-0001SAM	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Pin Configuration

Pin No.	Function
1	GND
2	RF-IN
3	GND
4	GND
5	RF-1 (out)
6	GND
7	GND
8	RF-2 (out)

Electrical Specifications¹: T_A = +25°C

Parameter	Units	Min	Typ	Max
Insertion Loss Above 3.0dB	dB	—	0.5	0.6
Isolation	dB	15	23	—
VSWR Input	—	—	1.35:1	1.5:1
Output	—	—	1.25:1	1.4:1
Amplitude Balance	dB	—	0.05	0.15
Phase Balance	Deg.	—	0.5	1.5

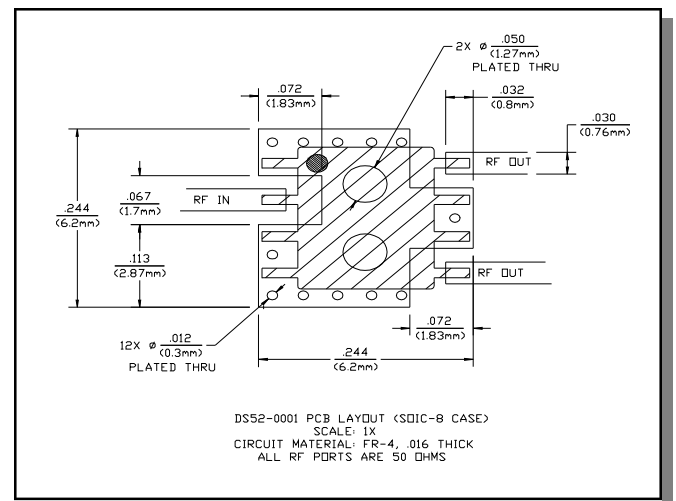
1. All specifications apply with a 50-Ohm source and load impedance.

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.

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.

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

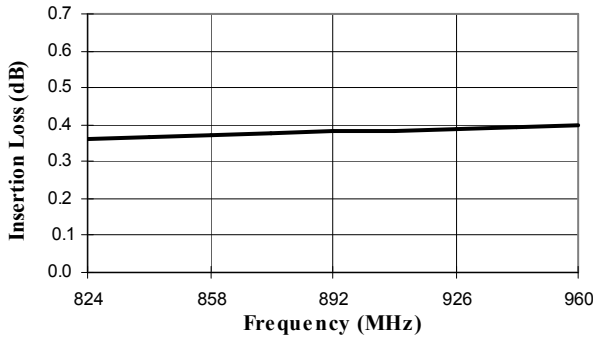
- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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

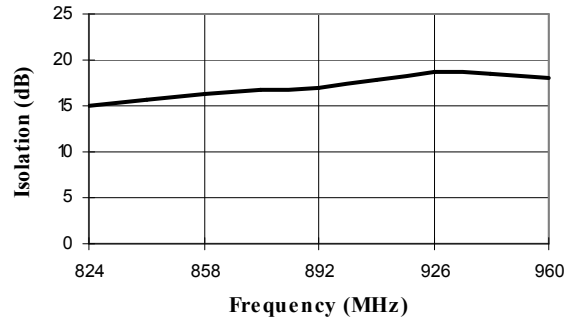
M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

Typical Performance @ +25°C

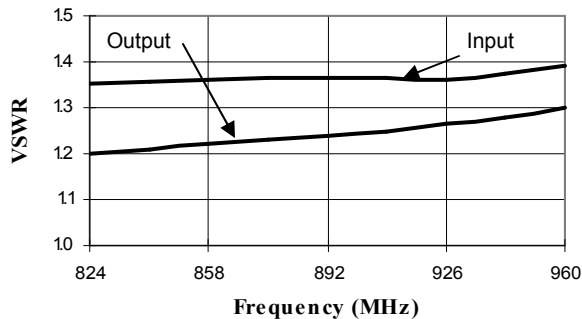
Insertion Loss vs. Frequency



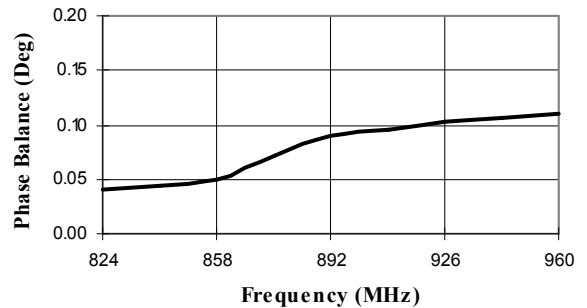
Isolation vs. Frequency



VSWR vs. Frequency



Phase Balance vs. Frequency Relative to RF1



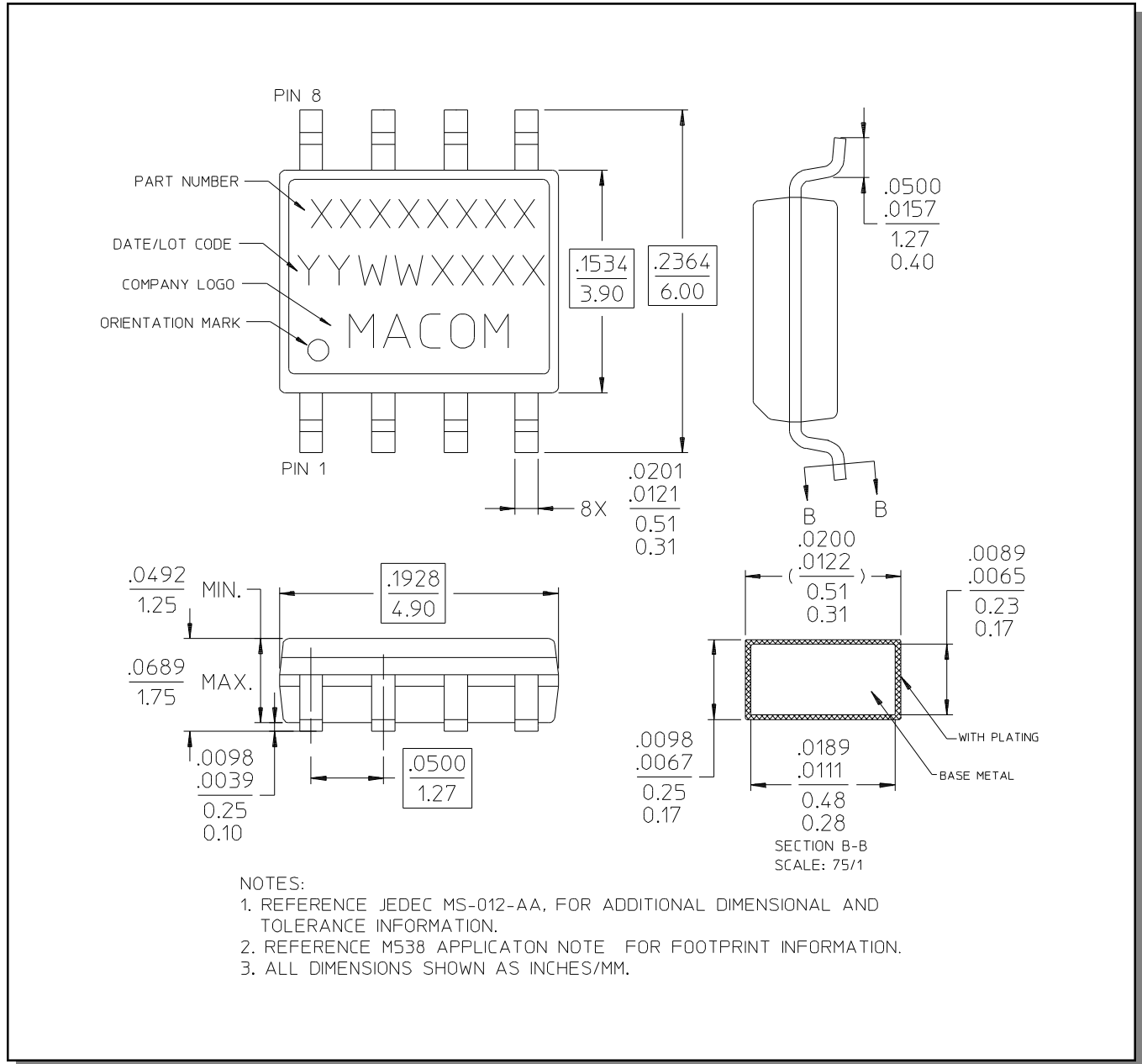
ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM 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
 - **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298
- Visit www.macom.com for additional data sheets and product information.

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

SOIC-8[†]



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