

Features

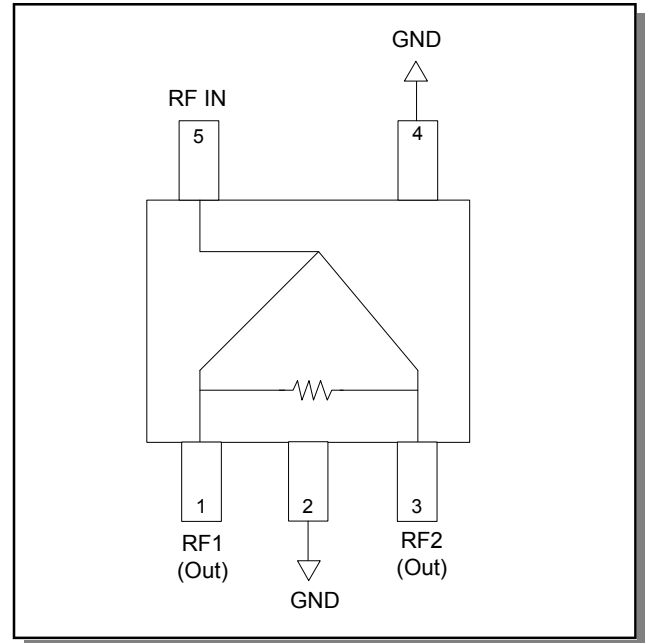
- Small Size and Low Profile
- Typical Insertion Loss: 1.0 dB
- Typical Amplitude Balance: 0.1 dB
- 1 Watt Power Handling
- SOT-25 Package

Description

M/A-COM's DS52-0007 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOT-25 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 handsets, base station switching networks and other communication applications where size and PCB real estate are at a premium. Available in Tape and Reel.

The DS52-0007 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
DS52-0007	Bulk Packaging
DS52-0007-TR	1000 piece reel
DS52-0007SAM	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Pin Configuration

Pin No.	Function
1	RF1 (OUT)
2	GND
3	RF2 (OUT)
4	GND
5	RF IN

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

Parameter	Frequency	Units	Min	Typ	Max
Insertion Loss (above 3.0 dB theoretical loss)	2200 - 2500 MHz	dB	—	1.0	1.1
Isolation	2200 - 2500 MHz	dB	15	22	—
Input VSWR	2200 - 2500 MHz	Ratio	—	1.6:1	1.8:1
Output VSWR	2200 - 2500 MHz	Ratio	—	1.3:1	1.5:1
Amplitude Balance	2200 - 2500 MHz	dB	—	0.1	—
Phase Balance	2200 - 2500 MHz	°	—	2	—

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.

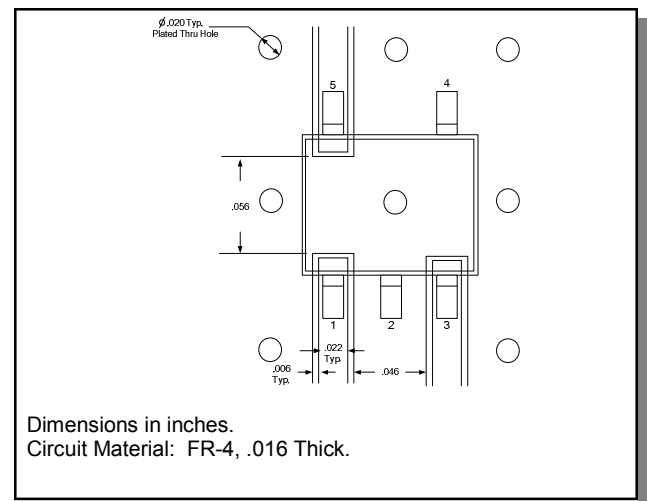
Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

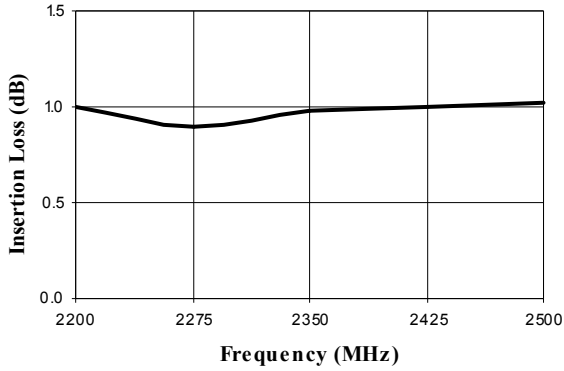
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Recommended PCB Configuration

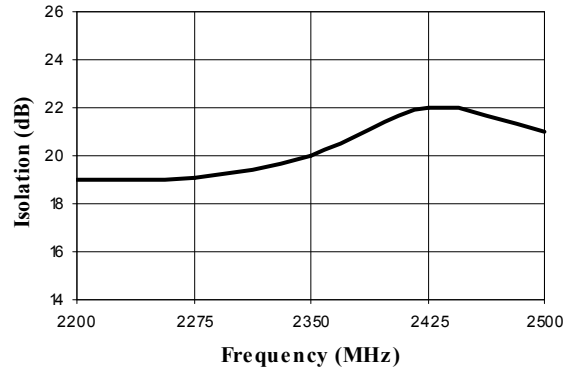


Typical Performance Curves @ 25°C

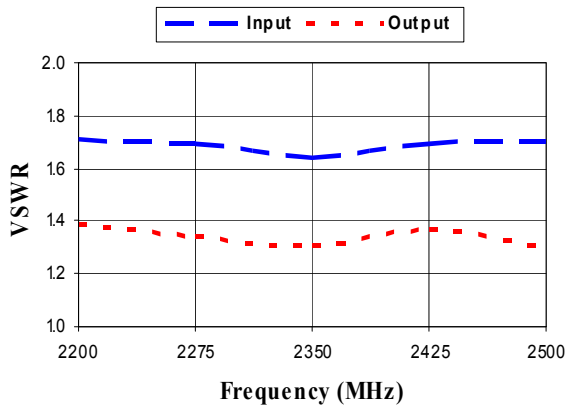
Insertion Loss vs. Frequency



Isolation vs. Frequency



VSWR vs. Frequency



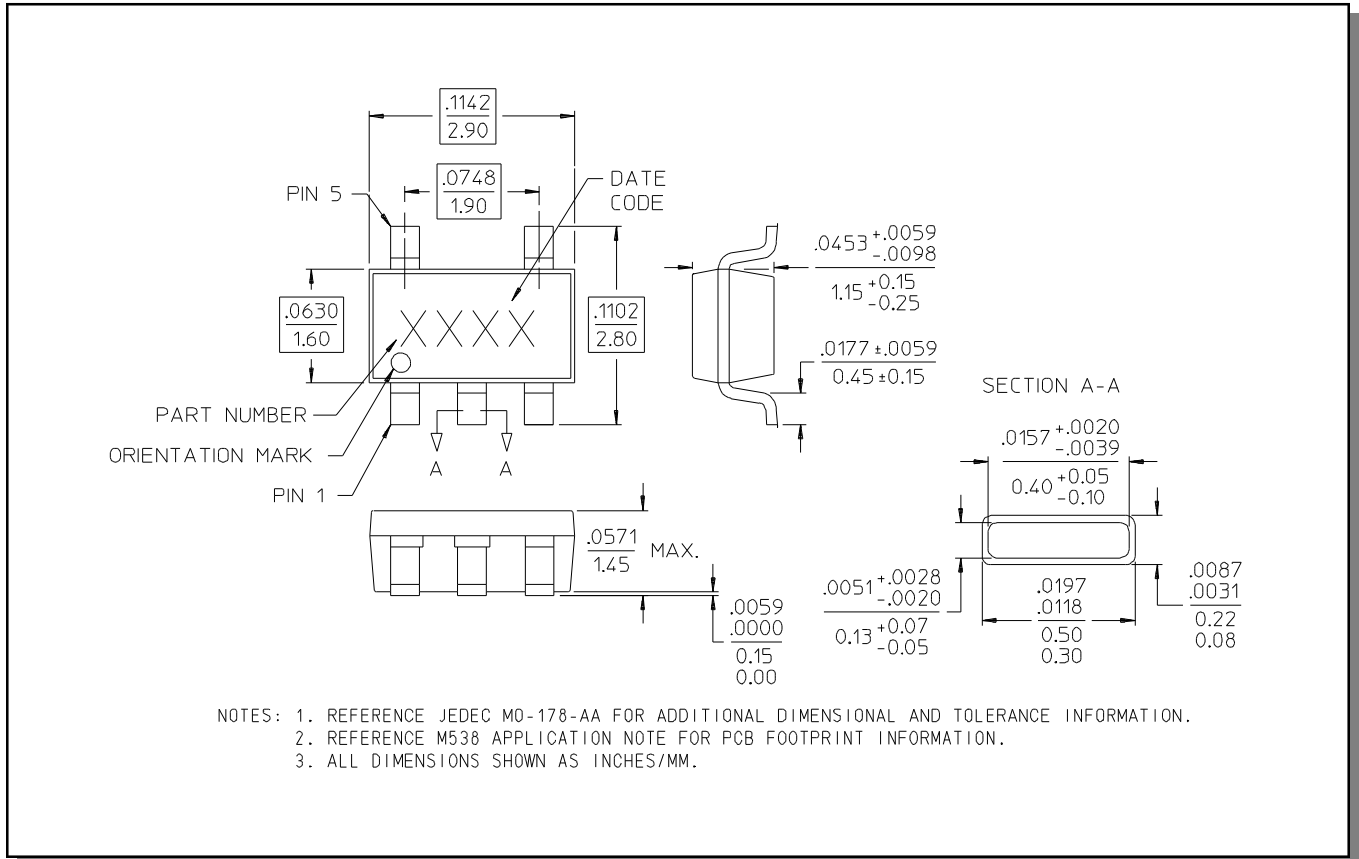
ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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.

SOT-25†



- NOTES: 1. REFERENCE JEDEC MO-178-AA 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.