DS52-0007

Low Cost Two-Way GMIC SMT Power Divider, 2200 - 2500 MHz

Rev. V5

Features

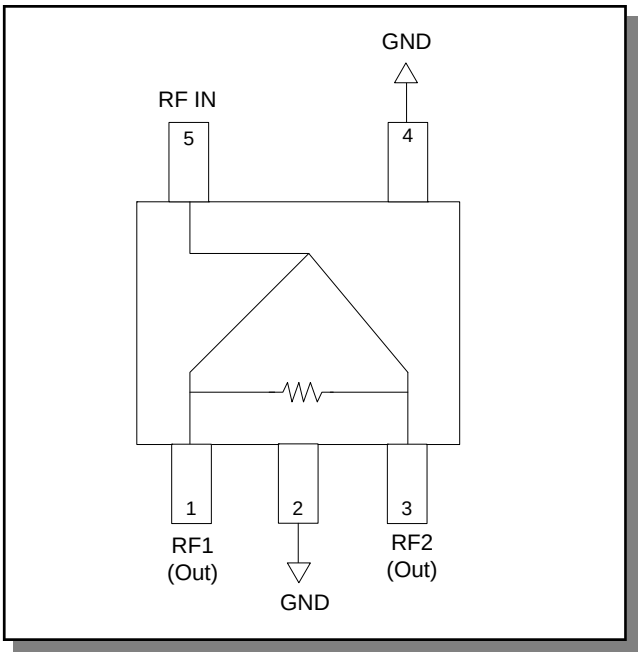
- Small Size and Low Profile
- Typical Insertion Loss: 1.0 dB
- Typical Amplitude Balance: 0.1 dB
- 1 Watt Power Handling
- SOT-25 Package

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

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• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
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Electrical Specifications: T_A = 25°C, Z_0 = 50Ω

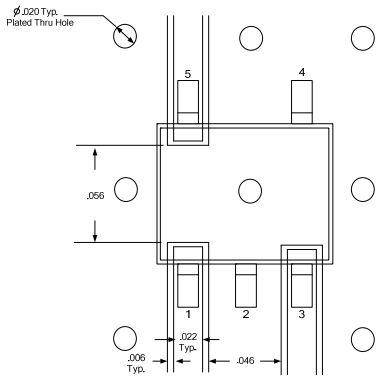
Parameter	Frequency	Units	Min	Typ	Max
Insertion Loss (above 3.0 dB theoretical loss)	2200 - 2500 MHz	dB	—	1.0	1.1
Isolation	2200 - 2500 MHz	dB	15	22	—
Input VSWR	2200 - 2500 MHz	Ratio	—	1.6:1	1.8:1
Output VSWR	2200 - 2500 MHz	Ratio	—	1.3:1	1.5:1
Amplitude Balance	2200 - 2500 MHz	dB	—	0.1	—
Phase Balance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

Recommended PCB Configuration



Dimensions in inches.
Circuit Material: FR-4, .016 Thick.

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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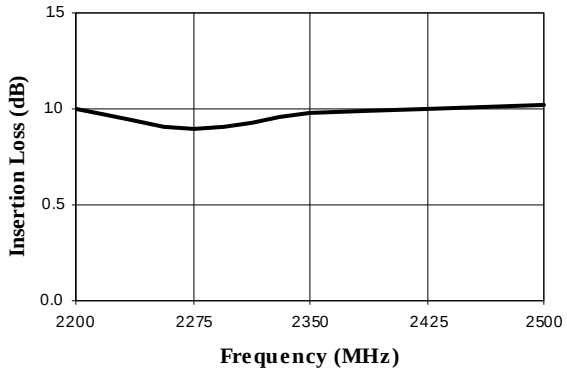
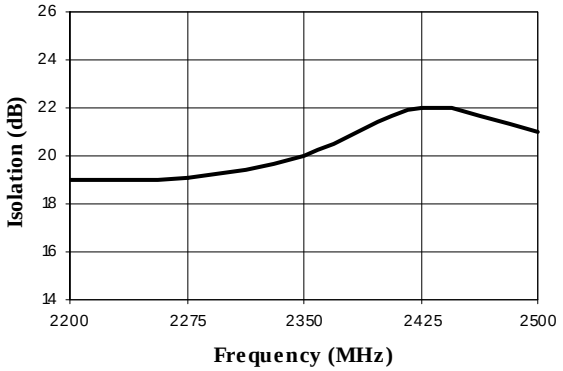
Typical Performance Curves @ 25ºC

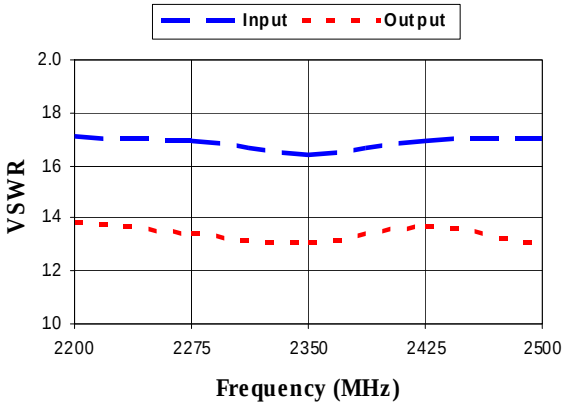
Insertion Loss vs. Frequency



Isolation vs. Frequency



VSWR vs. Frequency



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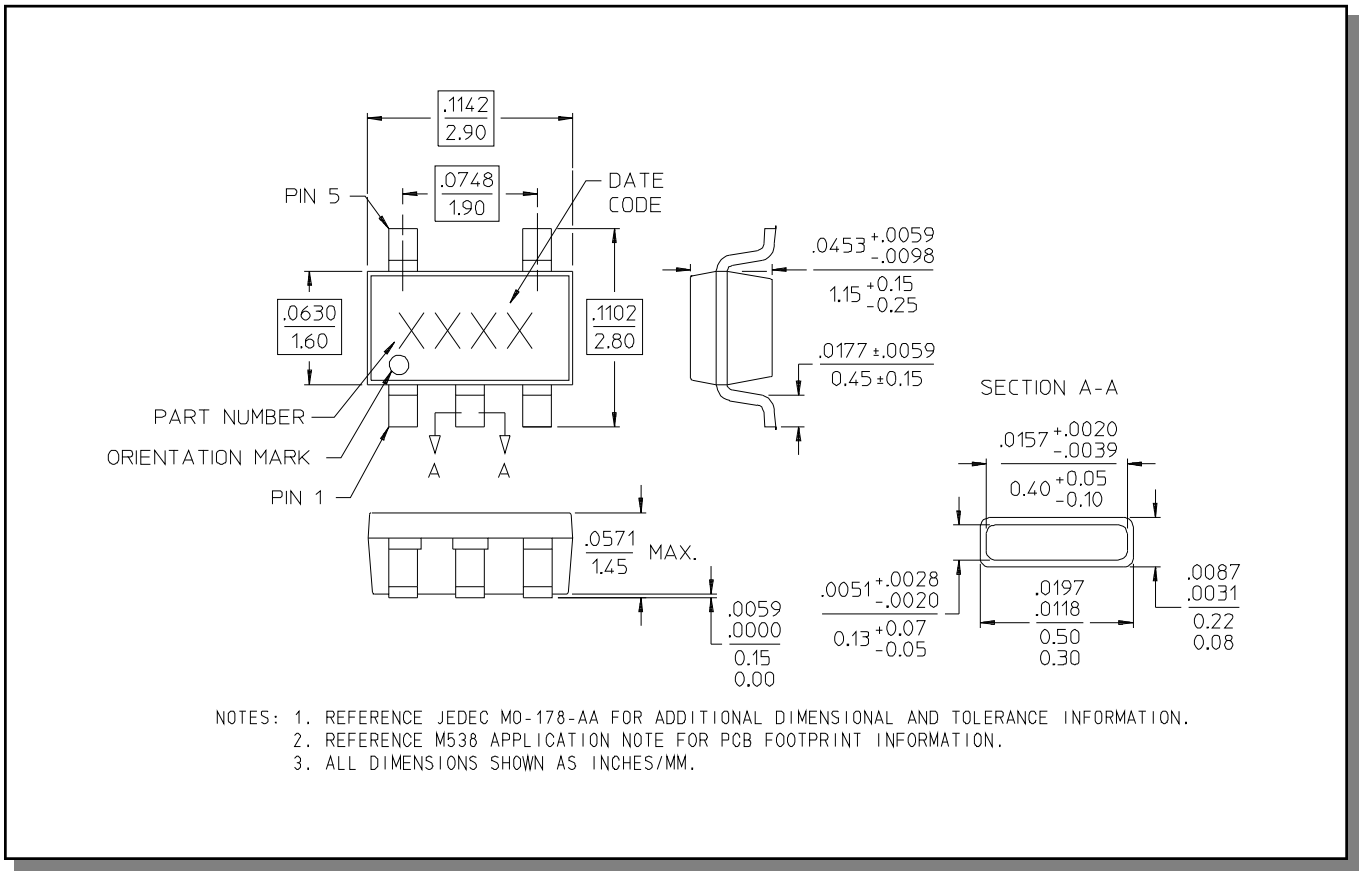
SOT-25†



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.

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