Low Cost Two-Way GMIC SMT Power Divider 824 – 960 MHz



Rev. V2

#### Features

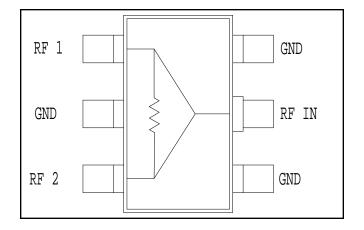
- Small Size and Low Profile
- Industry Standard SOT-26 SMT Plastic Package
- Typical Insertion Loss: 0.6 dB
- Typical Isolation: 15 dB
- 1 Watt Power Handling
- SOT-26 Package

#### Description

M/A-COM's DS52-0008 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOT-26 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 personal communication systems and other communication applications where size and PCB real estate are at a premium. Available in tape and reel.

The DS52-0008 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

#### **Functional Diagram**



### **Pin Configuration**

Pin No.	Function	Pin No.	Function
1	RF1	4	GND
2	GND	5	RF IN
3	RF2	6	GND

# **Ordering Information**

Part Number	Package	
DS52-0008	Bulk Packaging	
DS52-0008-TR	1000 piece reel	

Note: Reference Application Note M513 for reel size information.

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# DS52-0008



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# **Electrical Specifications:** T<sub>A</sub> = 25°C<sup>1</sup>

Parameter	Units	Min	Тур	Max
Insertion Loss Above 3.0 dB	dB	_	0.6	0.8
Isolation	dB	13	15	—
VSWR Input RF1, RF2 Outputs			1.3:1 1.3:1	1.4:1 1.5:1
Amplitude Balance	dB	_	0.1	0.25
Phase Balance	Deg.	_	3	5

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

### Absolute Maximum Ratings <sup>2,3</sup>

Parameter	Absolute Maximum		
Input Power <sup>4</sup>	1W CW		
Operating Temperature	-40°C to +85°C		

2. 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.

4. With internal load dissipation of 0.125 W maximum.

### Handling Procedures

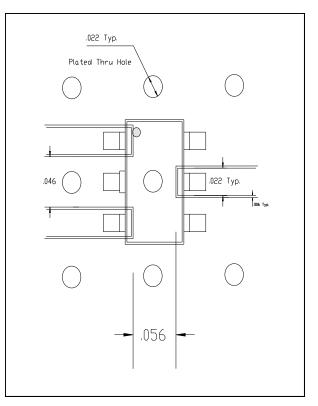
Please observe the following precautions to avoid damage:

#### **Static Sensitivity**

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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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# DS52-0008



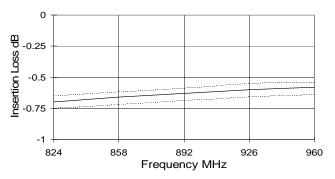
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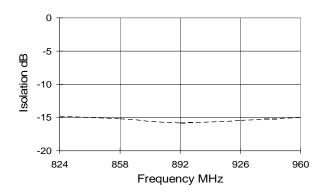
# Typical Performance Curves @ 25°C

#### Insertion Loss vs. Frequency

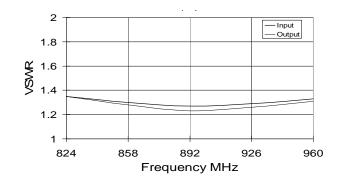
(Dashed lines show amplitude balance window)



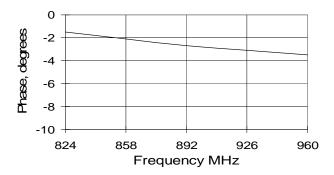
Isolation vs. Frequency



#### VSWR vs. Frequency



# Phase Balance vs. Frequency (Relative to RF1)



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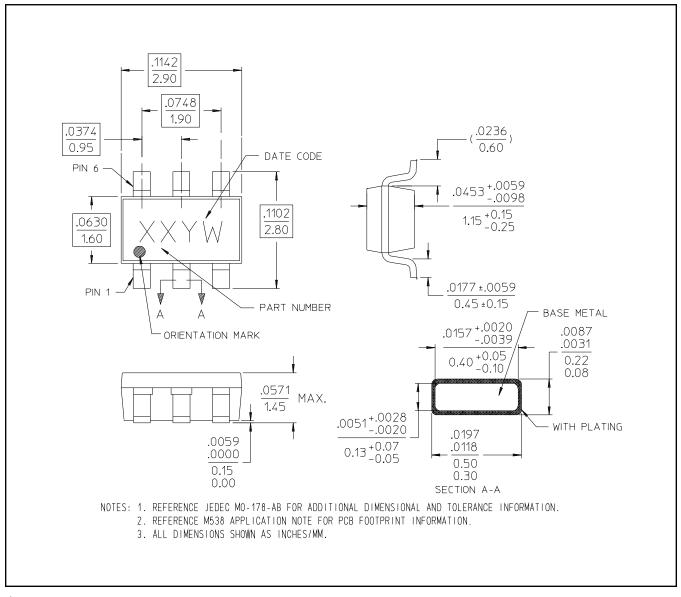
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# SOT-26<sup>†</sup>



<sup>†</sup> Reference Application Note M538 for lead-free solder reflow recommendations.

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