

Low Cost Two-Way SMT Power Divider, 1700 - 1900 MHz

M/A-COM Products Rev. 6

#### **Features**

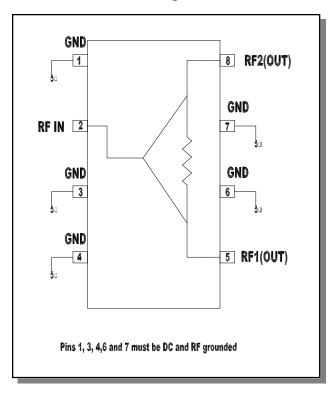
- Small Size and Low Profile
- SOIC-8 Package
- Superior Repeatability
- Excellent Amplitude Balance: 0.05 dB Typical
- Excellent Insertion Loss: 0.3 dB Typical
- Low Cost
- DCS-1800 Frequency Coverage

#### **Description**

M/A-COM's DS52-0005 is an IC-based monolithic power divider in a low cost SOIC-8 plastic package. This 2-way power splitter is ideally suited for applications where small size, low profile and low cost, without sacrificing performance are required. Typical applications include base station, portables and PCMCIA cards for DCS-1800 European applications. Available in tape and reel.

The DS52-0005 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

#### **Functional Block Diagram**



#### **Ordering Information**

Part Number	Package
DS52-0005	Bulk Packaging
DS52-0005-TR	1000 piece reel
DS52-0005SAM	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)			

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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 quaranteed.

North America Tel: 800.366.2266 / Fax: 978.366.2266

<sup>•</sup> 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.



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

Parameter	Test Conditions	Frequency	Units	Min	Тур	Max
Insertion Loss	Above 3.0 dB	1700 - 1900	dB	_	0.3	0.5
Isolation	_	1700 - 1900	dB	15	20	_
VSWR	_	1700 - 1900	Ratio	_	1.3:1	1.5:1
Amplitude Balance	_	1700 - 1900	dB	_	0.1	0.15
Phase Balance	_	1700 - 1900	Deg	_	2	4

<sup>1.</sup> All specifications apply with a 50-ohm source and load impedance.

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

Parameter	Absolute Maximum		
Input Power 4	1W 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.
- 4. With internal load dissipation of 0.125W maximum

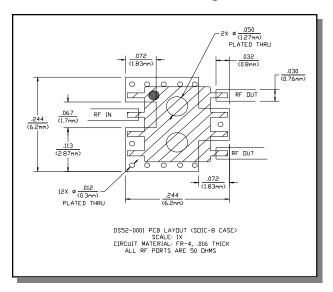
## **Handling Procedures**

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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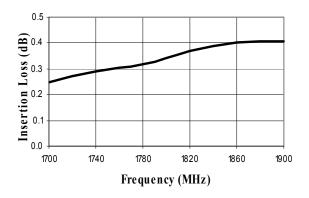


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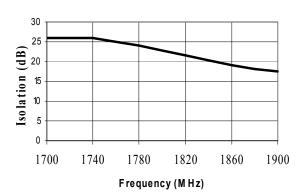
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## **Typical Performance Curves**

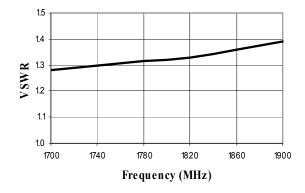
Insertion Loss vs. Frequency (above theoretical split loss)



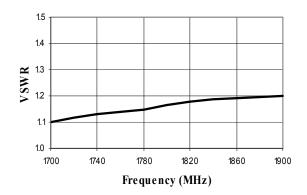
#### Isolation vs. Frequency



#### Input VSWR vs. Frequency



#### Output VSWR vs. Frequency



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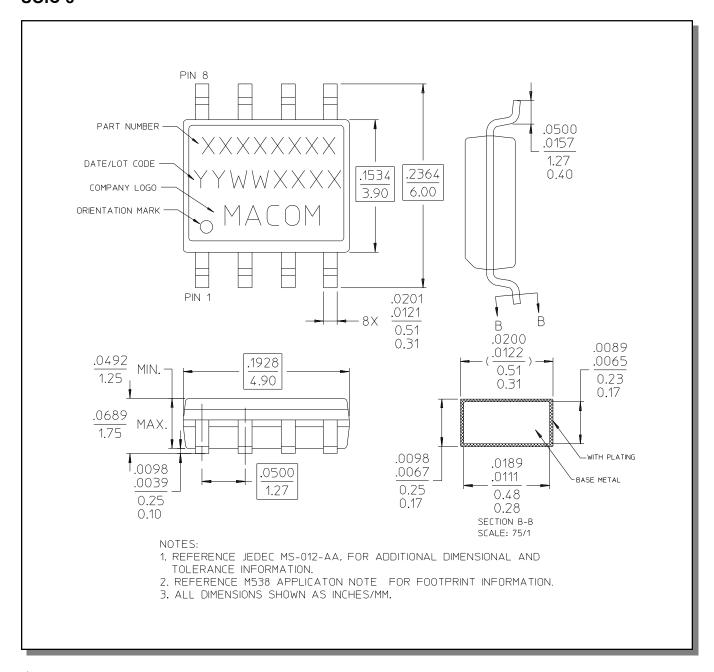
# **DS52-0005**



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## SOIC-8<sup>†</sup>



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

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