

Features

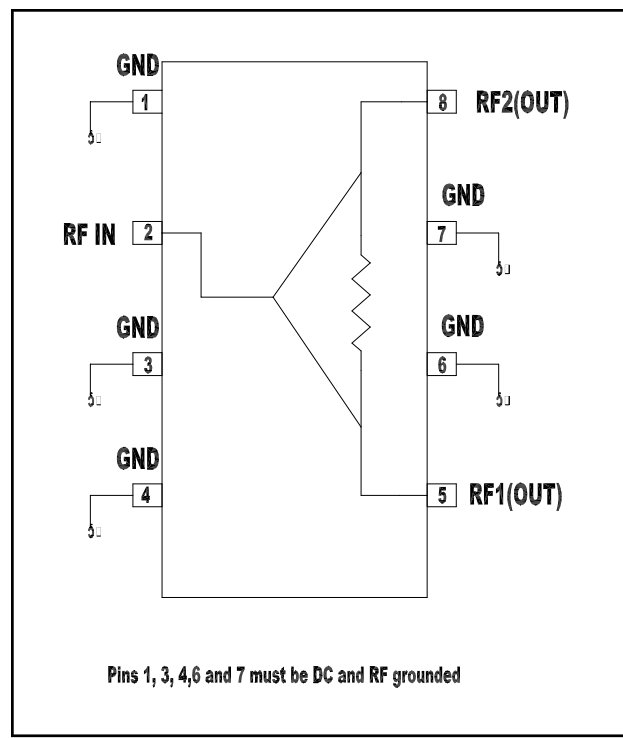
- Small Size and Low Profile
- SOIC-8 Package
- Superior Repeatability
- Excellent Amplitude Balance: 0.05 dB Typical
- Excellent Insertion Loss: 0.3 dB Typical
- Low Cost
- DCS-1800 Frequency Coverage

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 passive-integrated circuit process. The process features full-chip 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)

Electrical Specifications¹: T_A = 25°C

Parameter	Test Conditions	Frequency	Units	Min	Typ	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

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

Absolute Maximum Ratings^{2,3}

Parameter	Absolute Maximum
Input Power ⁴	1W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

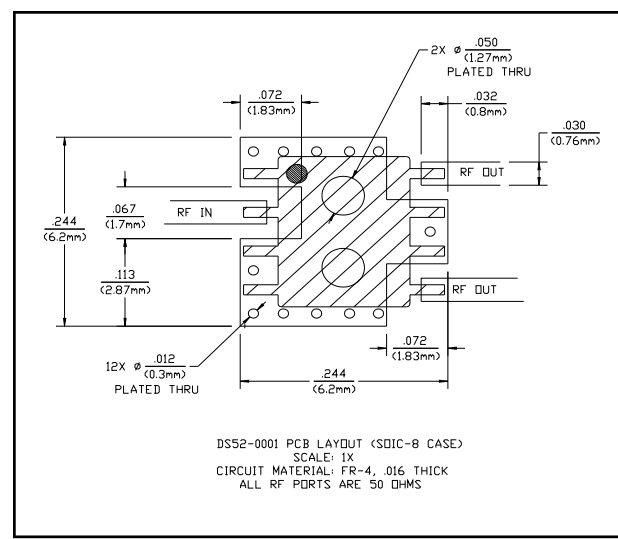
2. Exceeding any one or combination of these limits may cause permanent damage to this device.
 3. M/A-COM does not recommend sustained operation near these survivability limits.
 4. With internal load dissipation of 0.125W maximum

Handling Procedures

Please observe the following precautions to avoid damage:

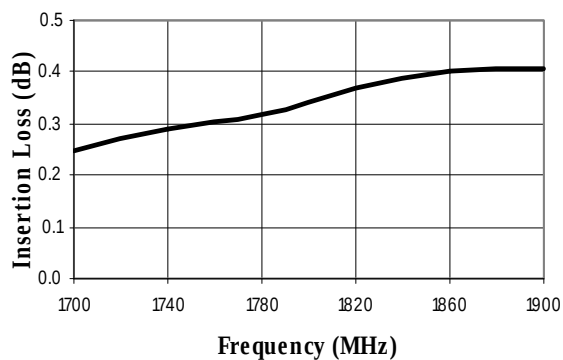
Static Sensitivity

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.

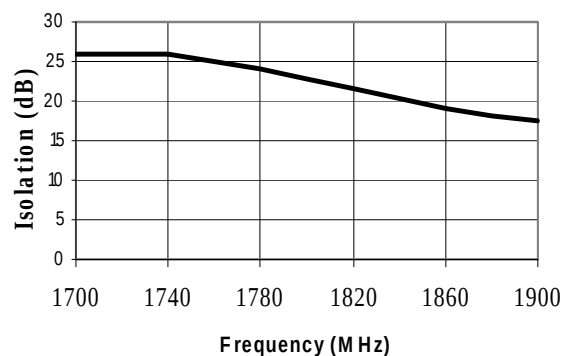
Recommended PCB Configuration


Typical Performance Curves

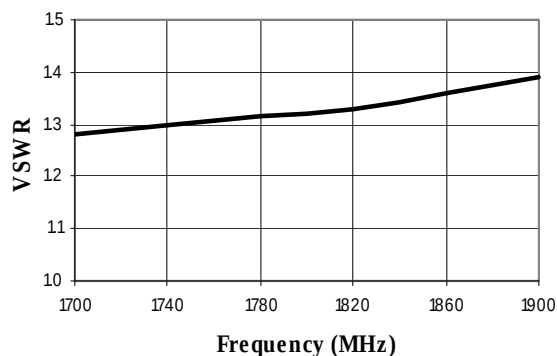
Insertion Loss vs. Frequency
(above theoretical split loss)



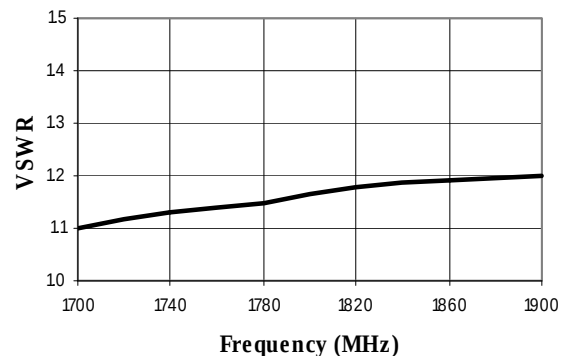
Isolation vs. Frequency



Input VSWR vs. Frequency



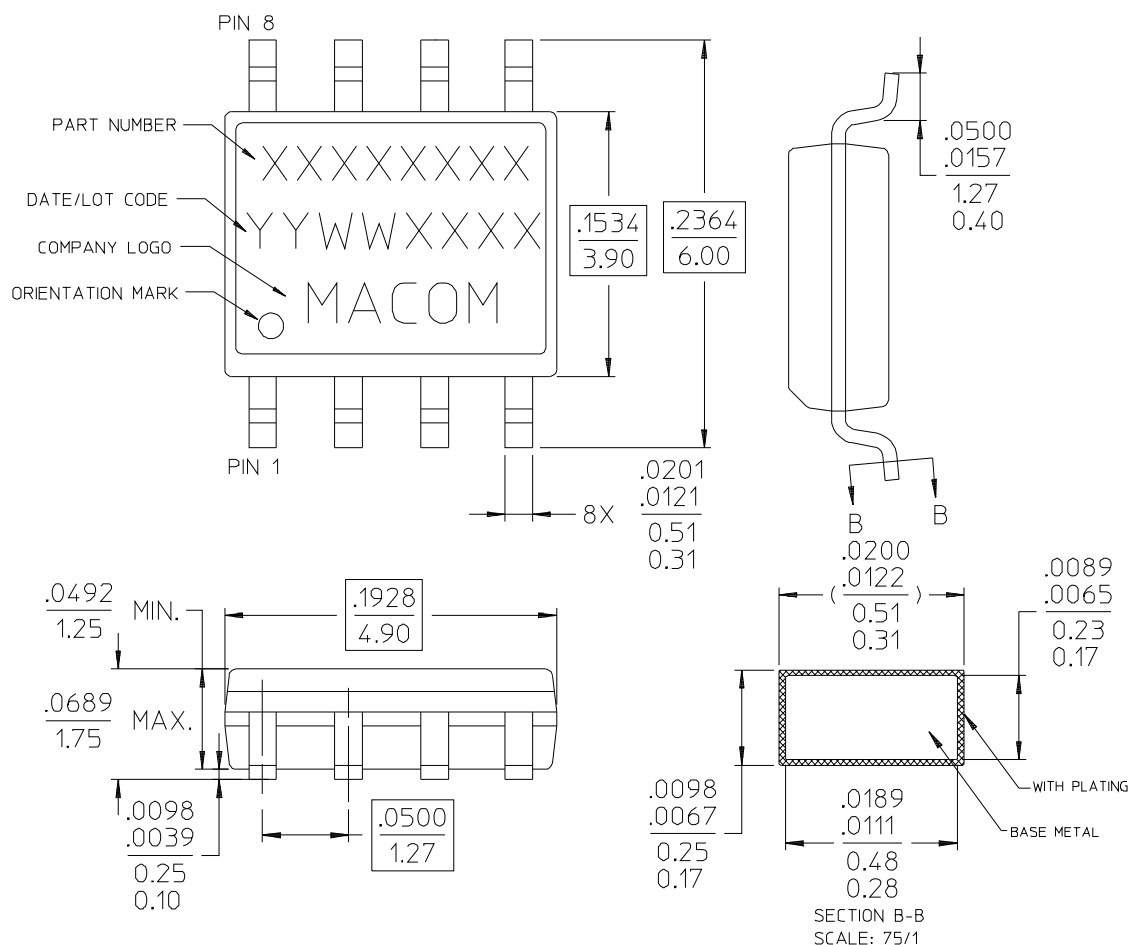
Output VSWR vs. Frequency



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

Rev. V6

SOIC-8[†]



NOTES:

1. REFERENCE JEDEC MS-012-AA, FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.
2. REFERENCE M538 APPLICATION NOTE FOR FOOTPRINT INFORMATION.
3. ALL DIMENSIONS SHOWN AS INCHES/MM.

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