MAPDCC0004

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

Rev. V3

Features

- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Superior Repeatability
- Excellent Amplitude Balance: 0.05 dB Typical
- Excellent Insertion Loss: 0.3 dB Typical
- Low Cost
- DCS-1800 Frequency Coverage
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS52-0005

Description

M/A-COM's MAPDCC0004 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.

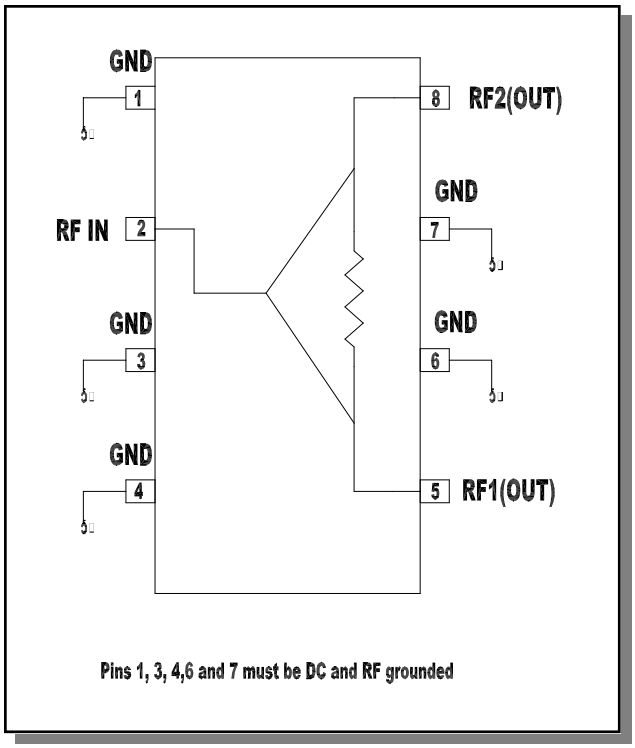
The MAPDCC0004 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Ordering Information

Part Number	Package
MAPDCC0004	Bulk Packaging
MAPDCC0004TR	1000 piece reel
MAPDCC0004-TB	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Functional Block Diagram



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)

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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Electrical Specifications[1]: 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

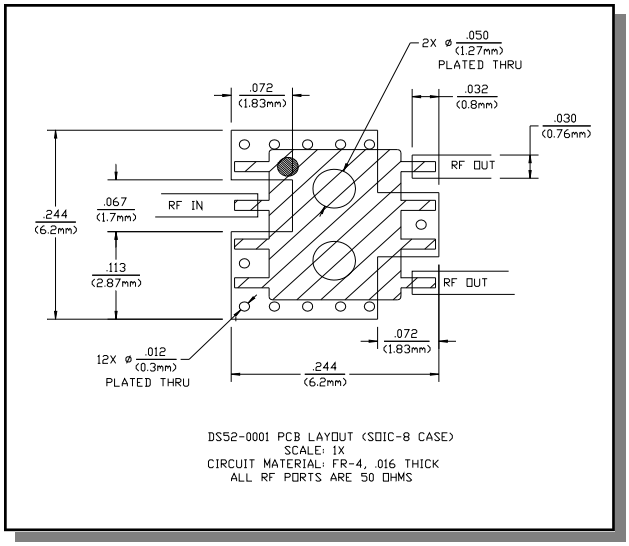
1. All specifications apply with a 50-ohm source and load impedance.

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

Recommended PCB Configuration



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.

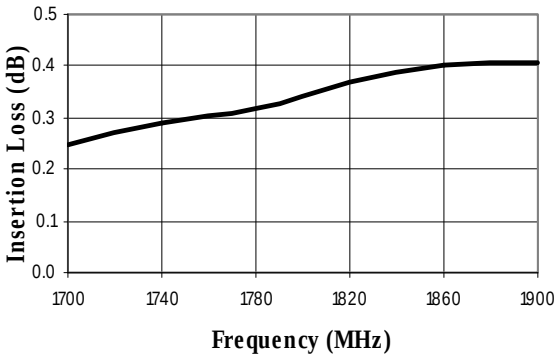
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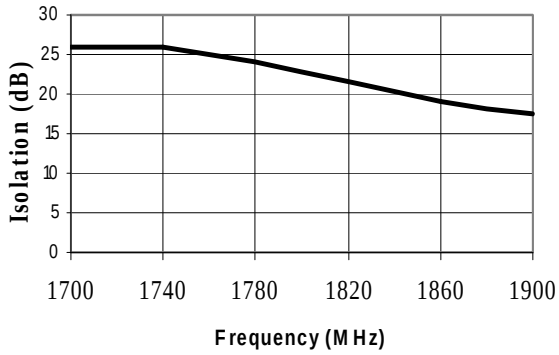
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Typical Performance Curves

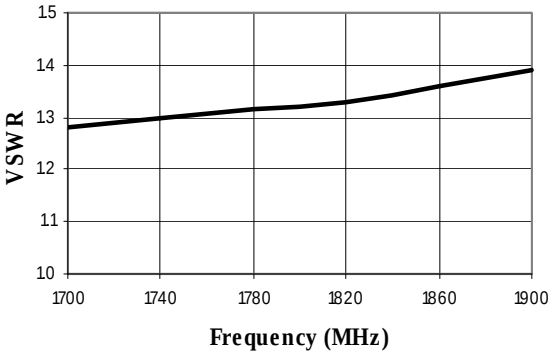
Insertion Loss vs. Frequency (above theoretical split loss)



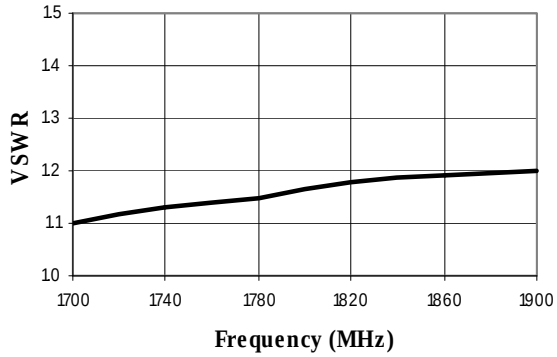
Isolation vs. Frequency



Input VSWR vs. Frequency



Output VSWR vs. Frequency

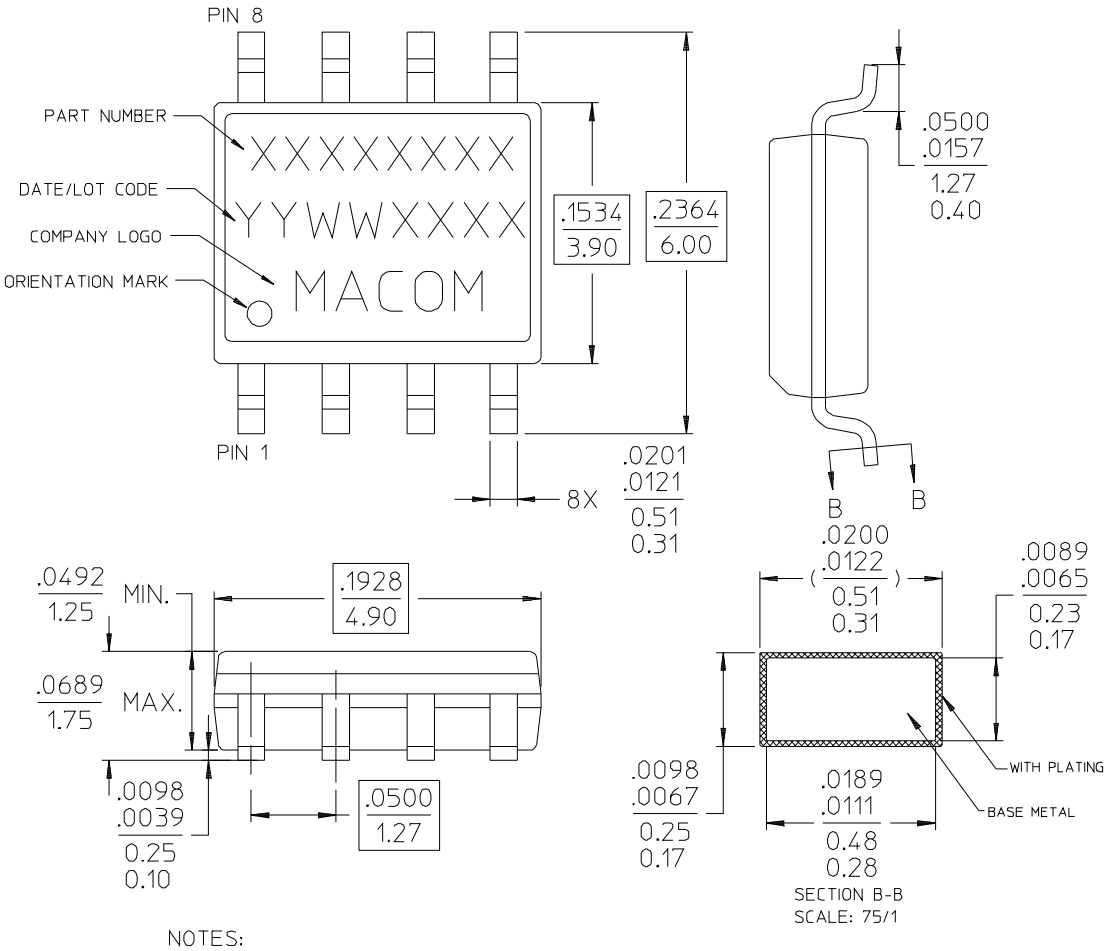


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Lead-Free, SOIC-8†



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

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

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