

**Low Cost Two-Way SMT Power Divider  
824-960 MHz**

**MAPDCC0001  
V3**

**Features**

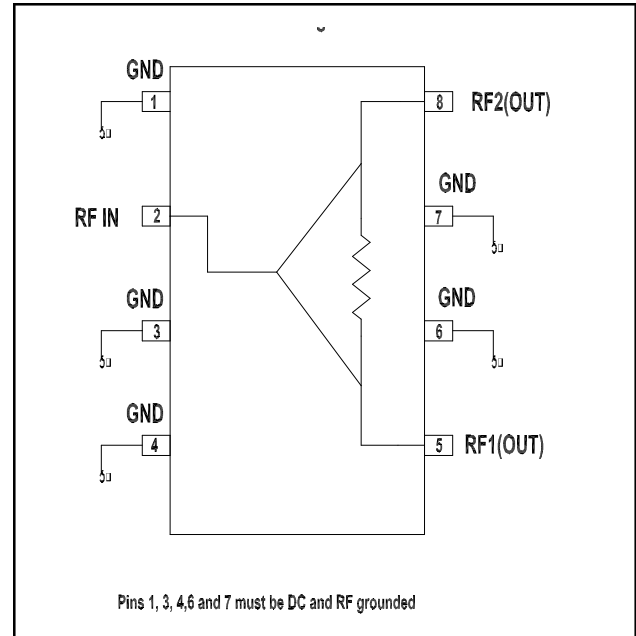
- Small Size and Low Profile
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.5 dB
- Typical Isolation 23 dB
- 1 Watt Power Handling
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS\* Compliant Version of DS52-0001

**Description**

M/A-COM’s MAPDCC0001 is an IC-based monolithic power divider in a low cost SOIC-8 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 base station switching networks and other communication applications where size and PCB real estate are a premium. Available in tape and reel.

The MAPDCC0001 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
MAPDCC0001	Bulk Packaging
MAPDCC0001TR	1000 piece reel
MAPDCC0001-TB	Sample Test Board

Note: Reference Application Note M513 for reel size information.  
Note: Die quantity varies.

**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<sup>1</sup>: T<sub>A</sub> = +25°C**

Parameter	Units	Min	Typ	Max
Insertion Loss Above 3.0dB	dB	—	0.5	0.6
Isolation	dB	15	23	—
VSWR Input	—	—	1.35:1	1.5:1
Output	—	—	1.25:1	1.4:1
Amplitude Balance	dB	—	0.05	0.15
Phase Balance	Deg.	—	0.5	1.5

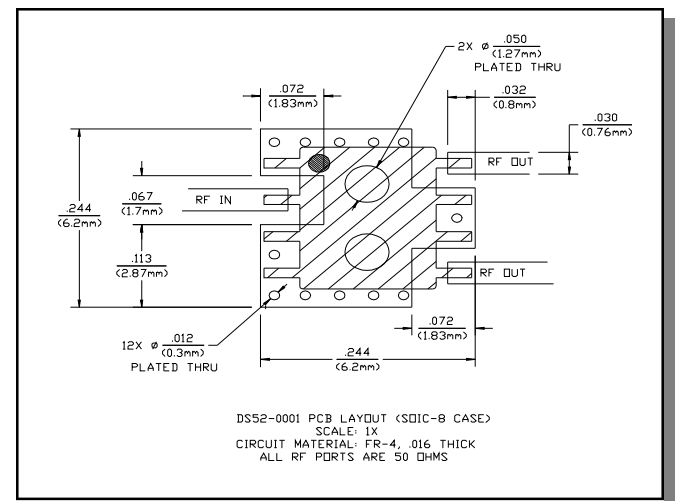
1. All specifications apply with a 50-Ohm source and load impedance.

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

Parameter	Absolute Maximum
Input Power <sup>4</sup>	1 W 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.
- With Internal load dissipation of 0.125 W maximum.

**Recommended PCB Configuration**



**Handling Procedures**

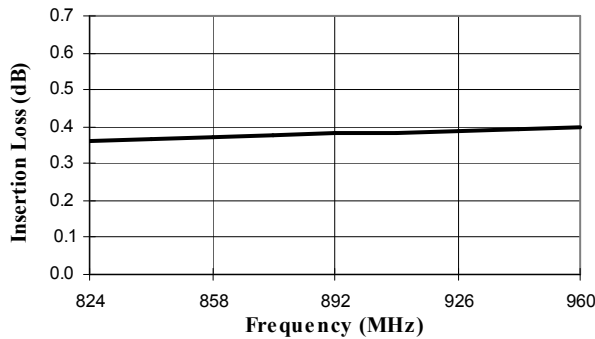
Please observe the following precautions to avoid damage:

**Static Sensitivity**

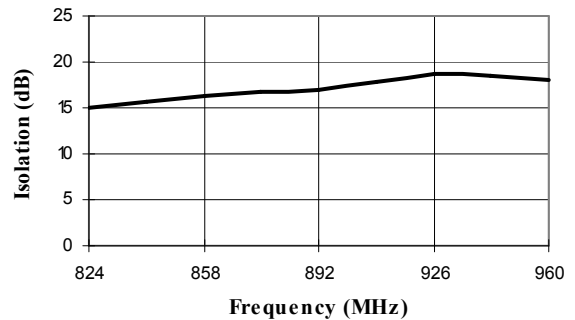
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

**Typical Performance @ +25°C**

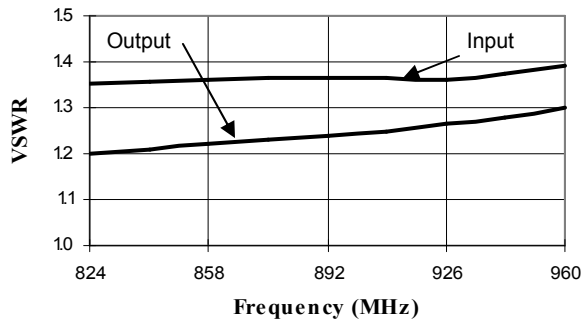
*Insertion Loss vs. Frequency*



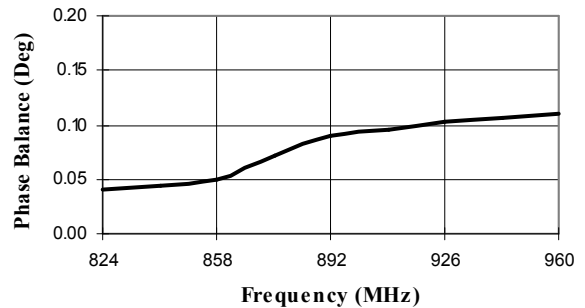
*Isolation vs. Frequency*



*VSWR vs. Frequency*



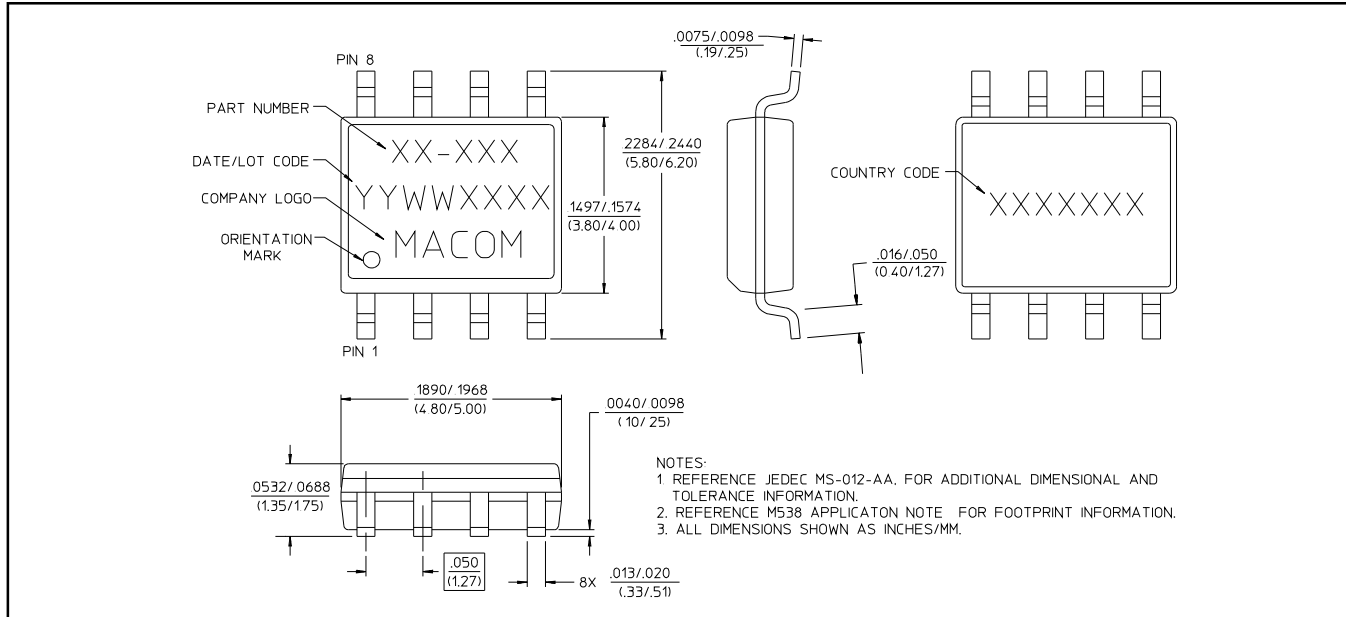
*Phase Balance vs. Frequency Relative to RF1*



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**Lead-Free, SOIC-8†**



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