

## Features

- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.7 dB
- Typical Isolation 21 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 DS52-0002

## Description

M/A-COM’s MAPDCC0002 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.

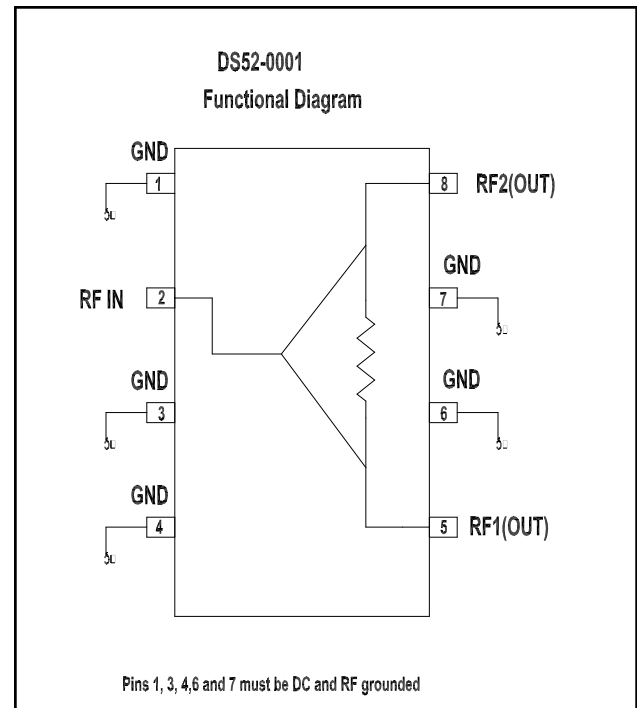
The MAPDCC0002 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

## Ordering Information

Part Number	Package
MAPDCC0002	Bulk Packaging
MAPDCC0002TR	1000 piece reel
MAPDCC0002-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.

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

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss	Above 3.0 dB	1850 - 1990	dB	—	0.5	0.6
Isolation	—	1850 - 1990	dB	15	21	—
VSWR	Input RL	1850 - 1990	Ratio	—	1.2:1	1.4:1
VSWR	Output RL	1850 - 1990	Ratio	—	1.4:1	1.6:1
Amplitude Balance	—	1850 - 1990	dB	—	0.05	0.15
Phase Balance	—	1850 - 1990	Deg.	—	1.0	3.0

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
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 0.125W maximum

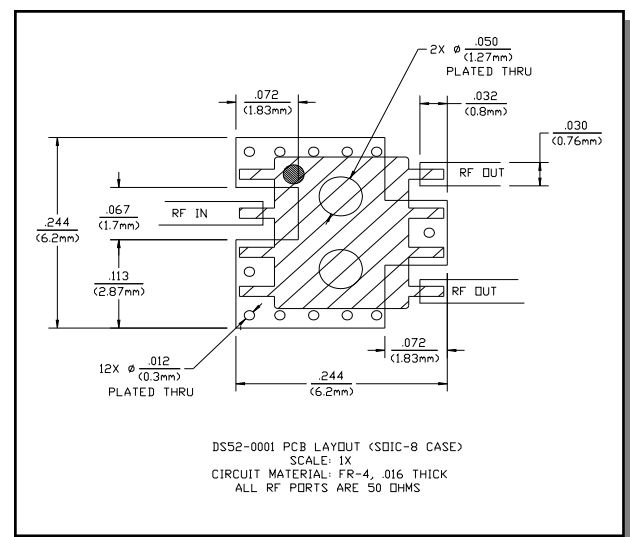
## Handling Procedures

Please observe the following precautions to avoid damage:

## Static Sensitivity

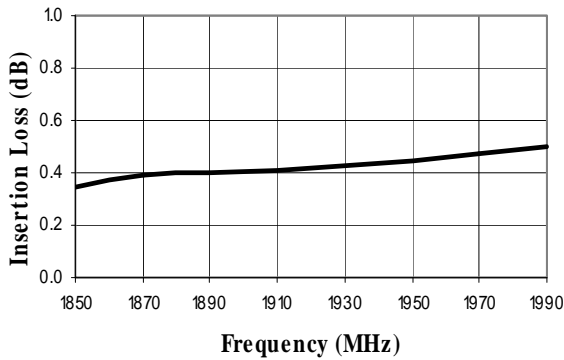
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

## Recommended PCB Configuration

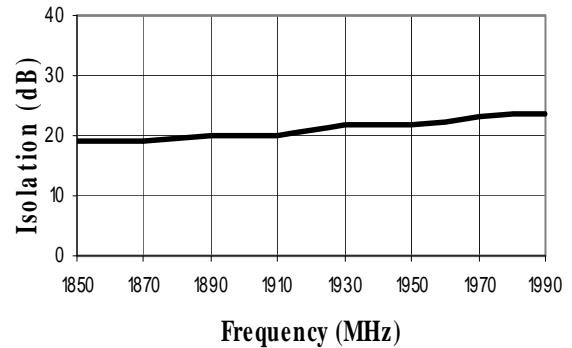


## Typical Performance Curves

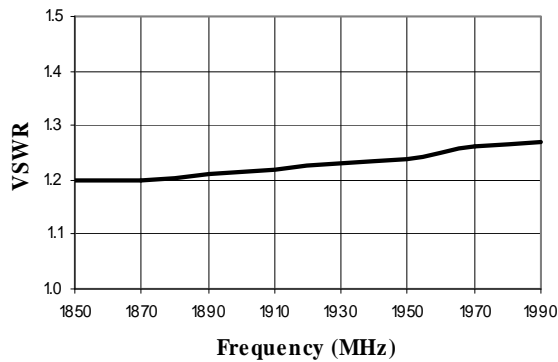
**Insertion Loss vs. Frequency**  
(above theoretical split loss)



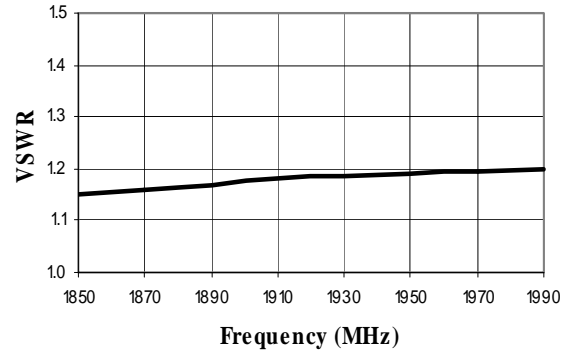
**Isolation vs. Frequency**



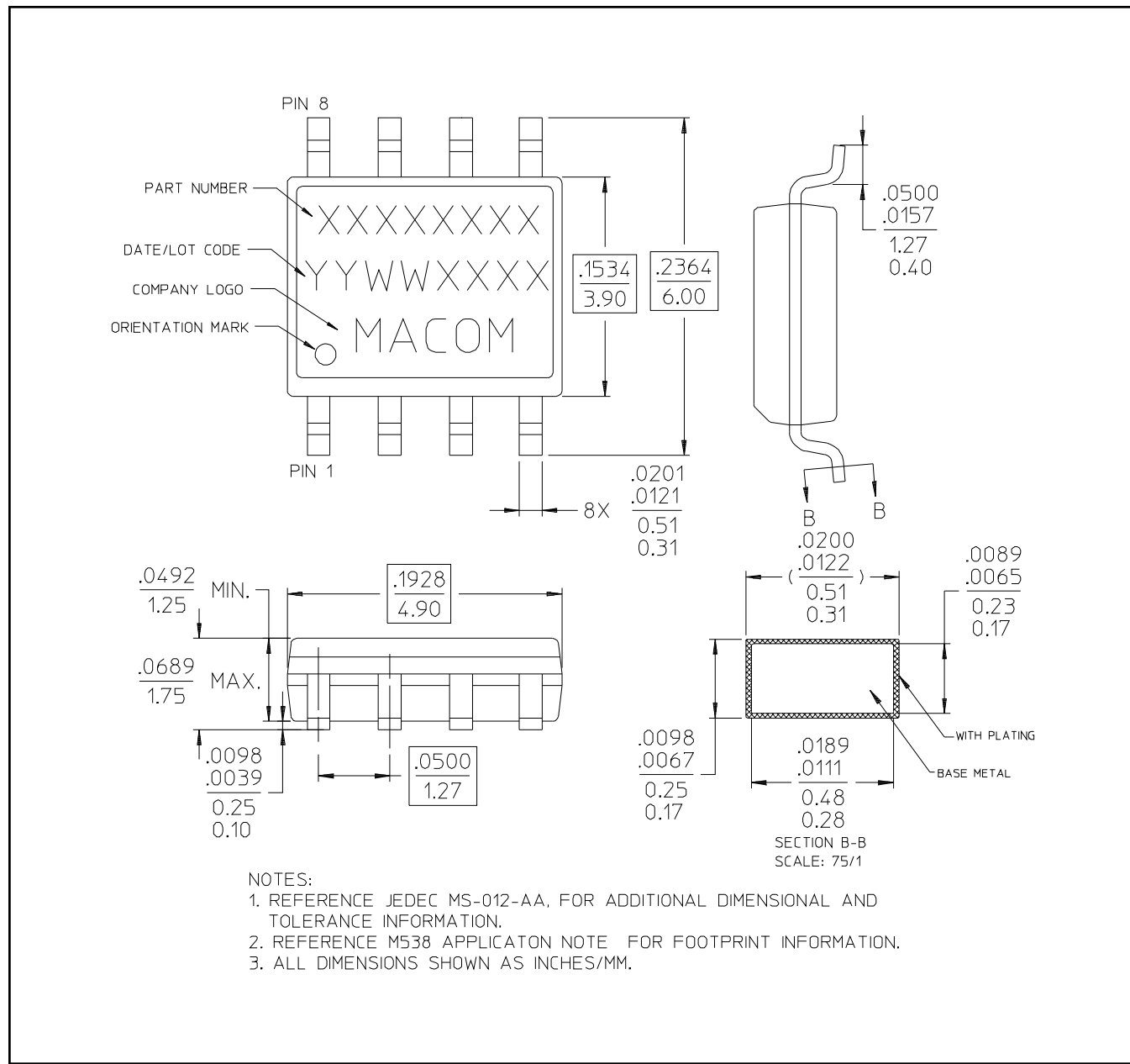
**Input VSWR vs. Frequency**



**Output VSWR vs. Frequency**



## Lead-Free, SOIC-8<sup>†</sup>



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