



MAPDCC0003 V2

# Low Cost Two-Way SMT Power Divider 1510-1600 MHz

#### **Features**

- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.4 dB
- Typical Isolation 20 dB
- 1 Watt Power Handling
- Frequency Coverage for GPS and LEO Programs
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS\* Compliant Version of DS52-0004

### **Description**

M/A-COM's MAPDCC0003 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 MAPDCC0003 is fabricated using a passiveintegrated circuit process. The process features full-chip passivation for increased performance and reliability.

### **Ordering Information**

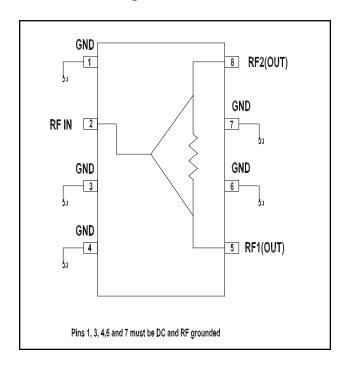
Part Number	Package
MAPDCC0003	Bulk Packaging
MAPDCC0003-TR	1000 Piece Reel
MAPDCC0003-TB	Sample Test Board

Note: Reference Application Note M513 for reel size

information.

Note: Die quantity varies.

#### **Functional 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)		

Visit www.macom.com for additional data sheets and product information.

<sup>\*</sup> 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

Par	ameter	Units	Min	Тур	Max
Insertion Loss	Above 3.0dB	dB	_	0.4	0.6
Isolation		dB	15	20	_
VSWR	Input RL	_	_	1.3:1	1.5:1
VSWR	Output RL	_	_	1.4:1	1.6:1
Amplitude Balance		dB	_	0.1	0.2
Phase Balance		Deg	_	1.0	3.0

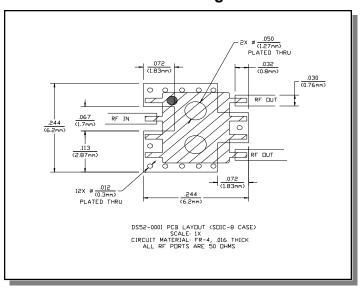
<sup>1.</sup> All specifications apply with a 50-Ohm source and load impedance.

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

Parameter	Absolute Maximum
Input Power <sup>4</sup>	1 W 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.
- M/A-COM does not recommend sustained operation near these survivability limits.
- 4. 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.

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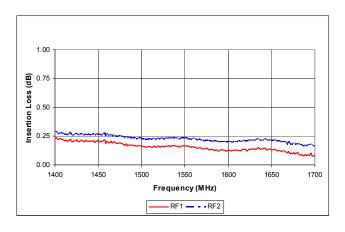


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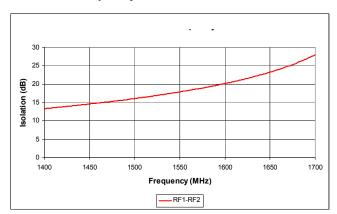
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### Typical Performance @ 25°C

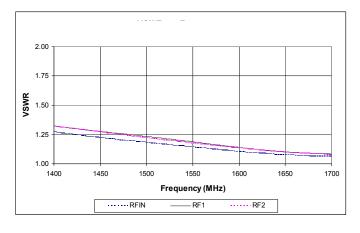
#### Insertion Loss vs. Frequency



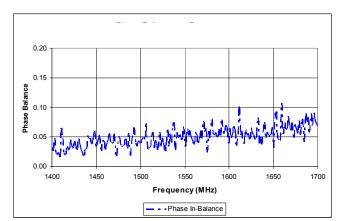
#### Isolation vs. Frequency



#### VSWR vs. Frequency



### Phase Balance vs. Frequency



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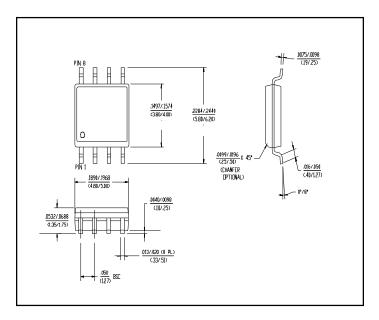




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## Lead-Free, SOIC-8<sup>†</sup>



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

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