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

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 passiveintegrated circuit process. The process features full-chip passivation for increased performance and reliability.

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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	8 RF-2 (out)	

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.

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

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Solutions

Rev. V4

MAPDCC0001



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Rev. V4

Electrical Specifications¹: $T_A = +25^{\circ}C$

Р	arameter	Units	Min	Тур	Max
Insertion Loss	Above 3.0dB	dB	—	0.5	0.6
Isolation		dB	15	23	—
VSWR	Input Output			1.35:1 1.25:1	1.5:1 1.4:1
Amplitude Balar	ice	dB	_	0.05	0.15
Phase Balance		Deg.	_	0.5	1.5

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

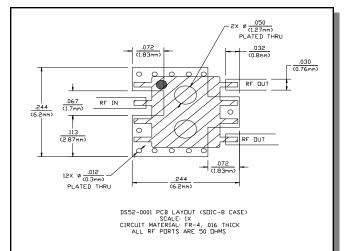
Absolute Maximum Ratings ^{2,3}

Parameter	Absolute Maximum	
Input Power ⁴	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.

- 3. 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.

2

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MAPDCC0001

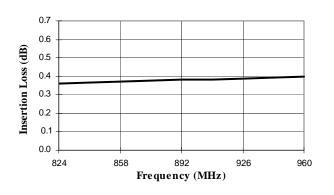


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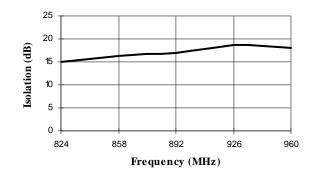
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Typical Performance @ +25°C

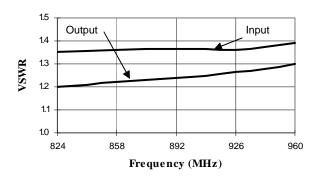
Insertion Loss vs. Frequency



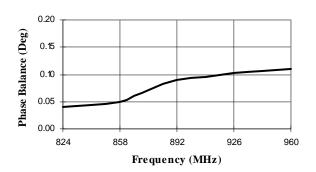
Isolation vs. Frequency



VSWR vs. Frequency



Phase Balance vs. Frequency Relative to RF1



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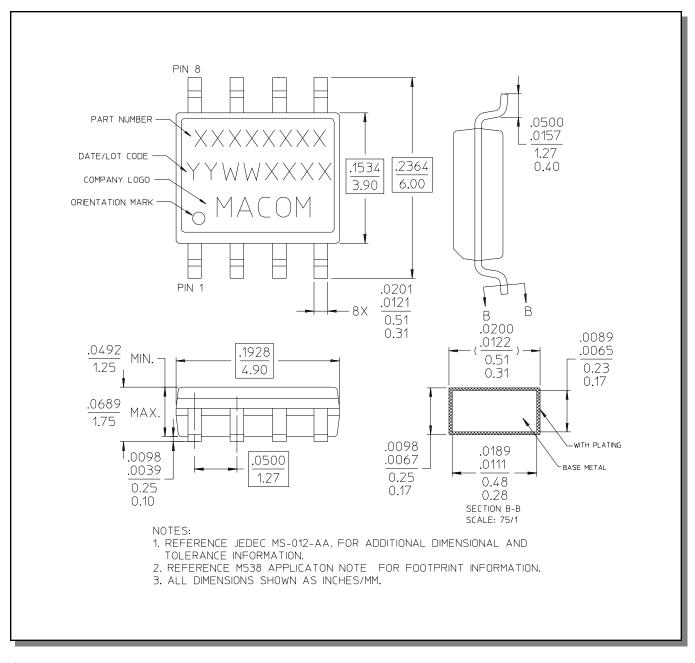
MAPDCC0001



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Lead-Free, SOIC-8[†]



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

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