MAPDCC0010



Low Cost Two-Way GMIC SMT Power Divider, 2200 - 2500 MHz

M/A-COM Products Rev. 2

Features

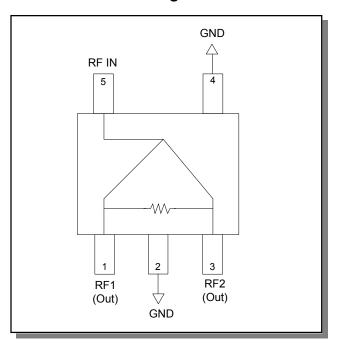
- Small Size and Low Profile
- Typical Insertion Loss: 1.0 dB
- Typical Amplitude Balance: 0.1 dB
- 1 Watt Power Handling
- Lead-Free SOT-25 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS52-0007

Description

M/A-COM's MAPDCC0010 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOT-25 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 handsets, base station switching networks and other communication applications where size and PCB real estate are at a premium. Available in Tape and Reel.

The MAPDCC0010 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

Functional Block Diagram



Ordering Information

Part Number	Package	
MAPDCC0010	Bulk Packaging	
MAPDCC0010-TR	1000 piece reel	
MAPDCC0010-TB	Sample Test Board	

Note: Reference Application Note M513 for reel size information

Pin Configuration

Pin No.	Function		
1	RF1 (OUT)		
2	GND		
3	RF2 (OUT)		
4	GND		
5	RF IN		

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

ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

North America Tel: 800.366.2266 / Fax: 978.366.2266

[•] Europe Tel: 44.1908.574.200 / Fax: 44.1908.574.300

Asia/Pacific Tel: 81.44.844.8296 / Fax: 81.44.844.8298
 Visit www.macom.com for additional data sheets and product information.

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Electrical Specifications: $T_A = 25^{\circ}C$, $Z_0 = 50\Omega$

Parameter	Frequency	Units	Min	Тур	Max
Insertion Loss (above 3.0 dB theoretical loss)	2200 - 2500 MHz	dB	_	1.0	1.1
Isolation	2200 - 2500 MHz	dB	15	22	_
Input VSWR	2200 - 2500 MHz	Ratio	_	1.6:1	1.8:1
Output VSWR	2200 - 2500 MHz	Ratio	_	1.3:1	1.5:1
Amplitude Balance	2200 - 2500 MHz	dB	_	0.1	_
Phase Balance	2200 - 2500 MHz	0	_	2	_

Absolute Maximum Ratings 1,2

Parameter	Absolute Maximum	
Input Power 3	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.
- 3. With internal load dissipation of 0.125 W maximum.

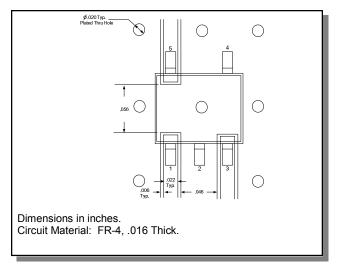
Handling Procedures

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



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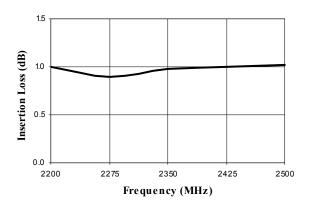


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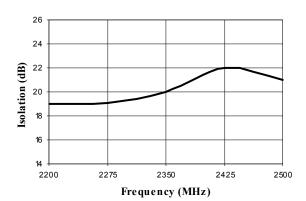
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Typical Performance Curves @ 25°C

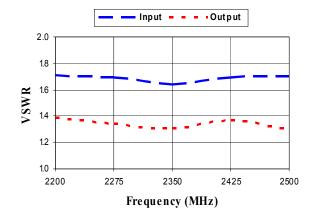
Insertion Loss vs. Frequency



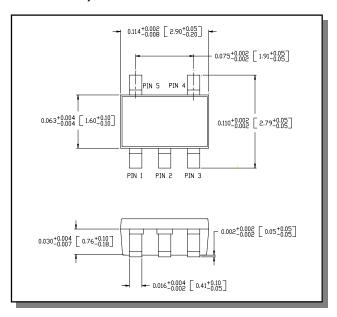
Isolation vs. Frequency



VSWR vs. Frequency



Lead-Free, SOT-25[†]



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

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