

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

**MAPDCC0010  
V1**

**Features**

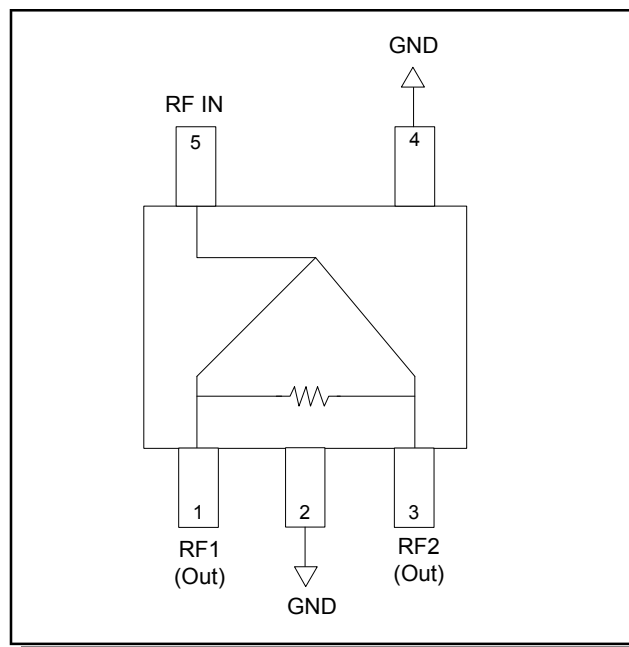
- Small Size and Low Profile
- Typical Insertion Loss: 1.0 dB
- Typical Amplitude Balance: 0.1 dB
- 1 Watt Power Handling
- Lead-Free SOT-25 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS\* Compliant Version of DS52-0007

**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 passive-integrated circuit process. The process features full-chip 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.

Note: Die quantity varies.

**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.

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

Parameter	Frequency	Units	Min	Typ	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	°	—	2	—

**Absolute Maximum Ratings <sup>1,2</sup>**

Parameter	Absolute Maximum
Input Power <sup>3</sup>	1 W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.
3. With internal load dissipation of 0.125 W maximum.

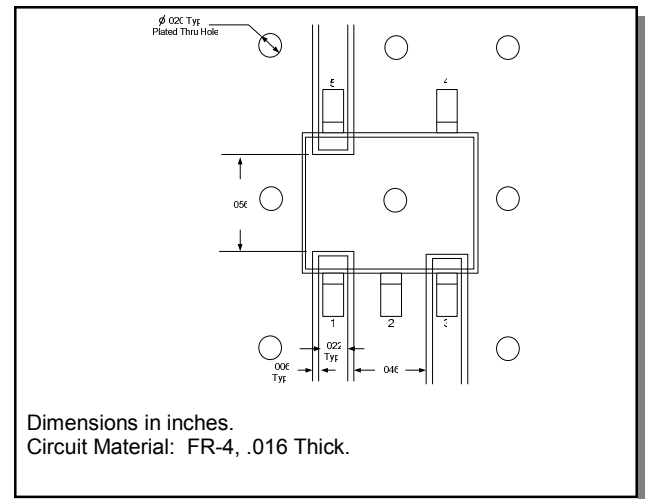
**Handling Procedures**

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**

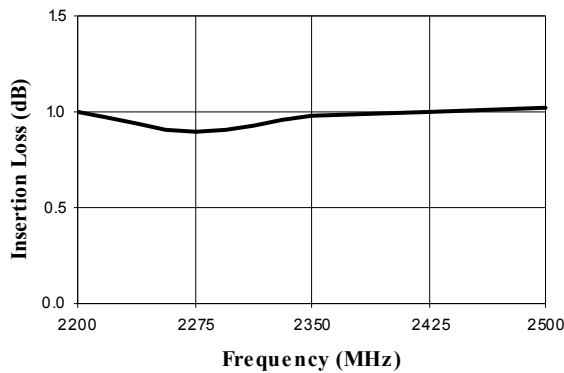


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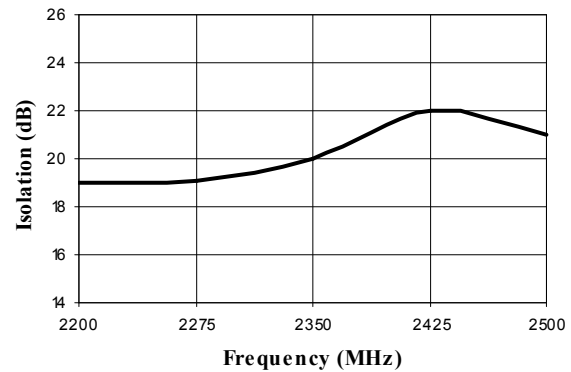
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**Typical Performance Curves @ 25°C**

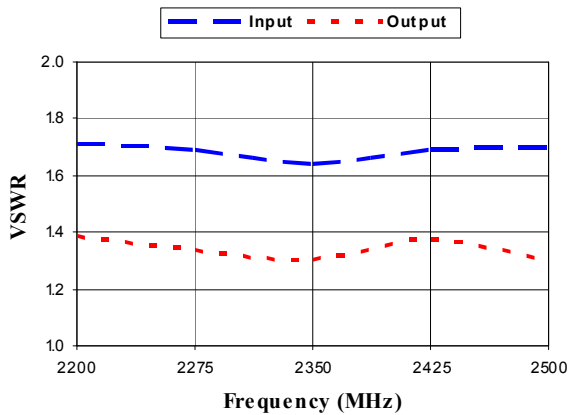
*Insertion Loss vs. Frequency*



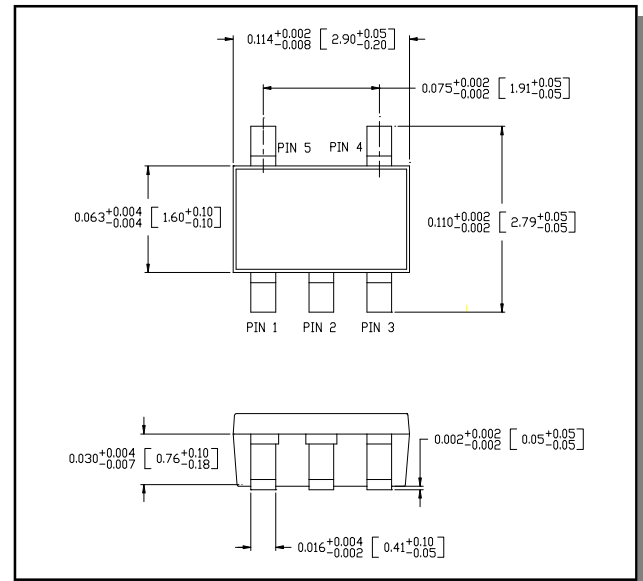
*Isolation vs. Frequency*



*VSWR vs. Frequency*



**Lead-Free, SOT-25<sup>†</sup>**



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