MAPDCC0010

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

Rev. V2

Features

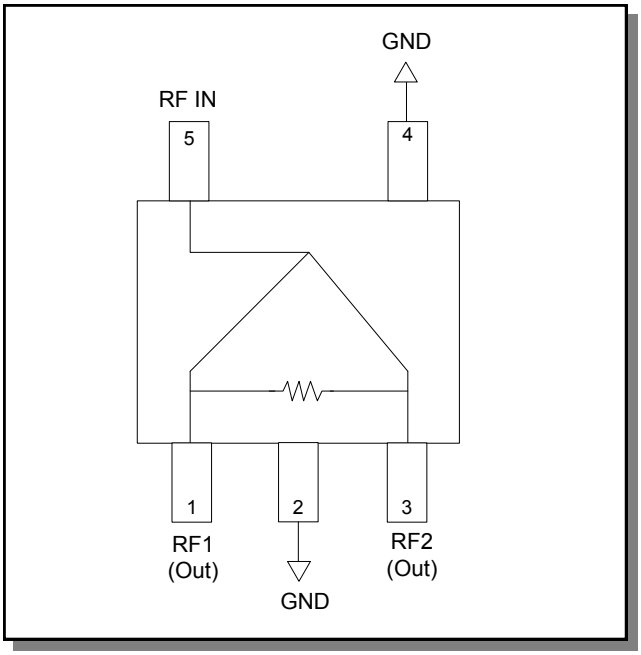
- Small Size and Low Profile
- Typical Insertion Loss: 1.0 dB
- Typical Amplitude Balance: 0.1 dB
- 1 Watt Power Handling
- Lead-Free SOT-25 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS52-0007

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.

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°C, Z_0 = 50Ω

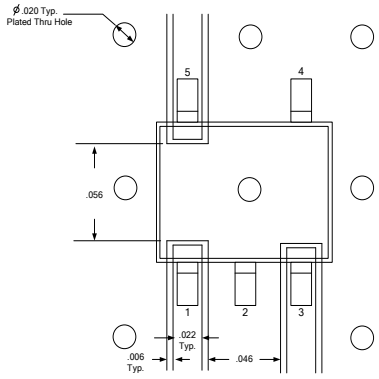
Parameter	Frequency	Units	Min	Typ	Max
Insertion Loss (above 3.0 dB theoretical loss)	2200 - 2500 MHz	dB	—	1.0	1.1
Isolation	2200 - 2500 MHz	dB	15	22	—
Input VSWR	2200 - 2500 MHz	Ratio	—	1.6:1	1.8:1
Output VSWR	2200 - 2500 MHz	Ratio	—	1.3:1	1.5:1
Amplitude Balance	2200 - 2500 MHz	dB	—	0.1	—
Phase Balance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

Absolute Maximum Ratings [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

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.

Recommended PCB Configuration



Dimensions in inches.
Circuit Material: FR-4, .016 Thick.

Handling Procedures

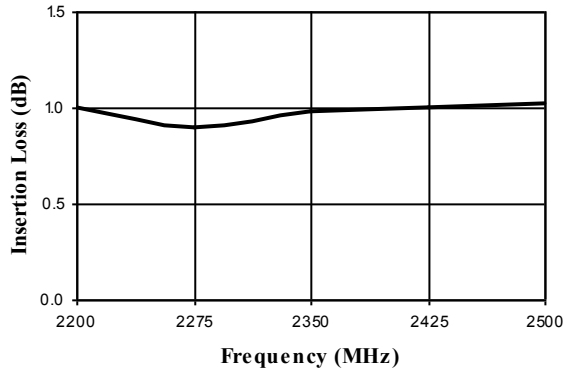
Please observe the following precautions to avoid damage:

Static Sensitivity

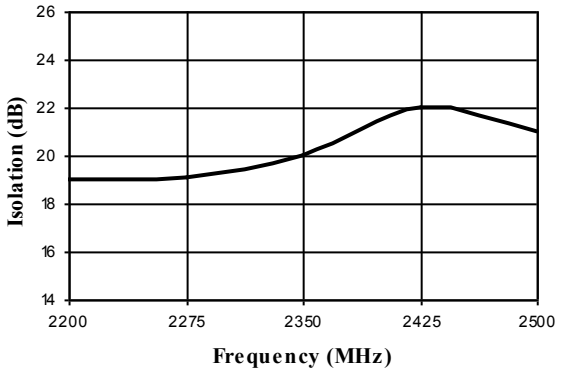
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Typical Performance Curves @ 25ºC

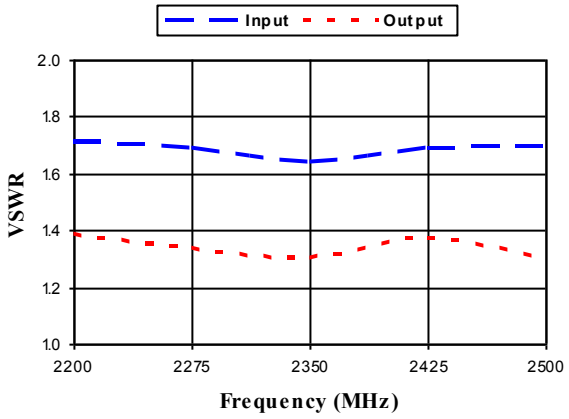
Insertion Loss vs. Frequency



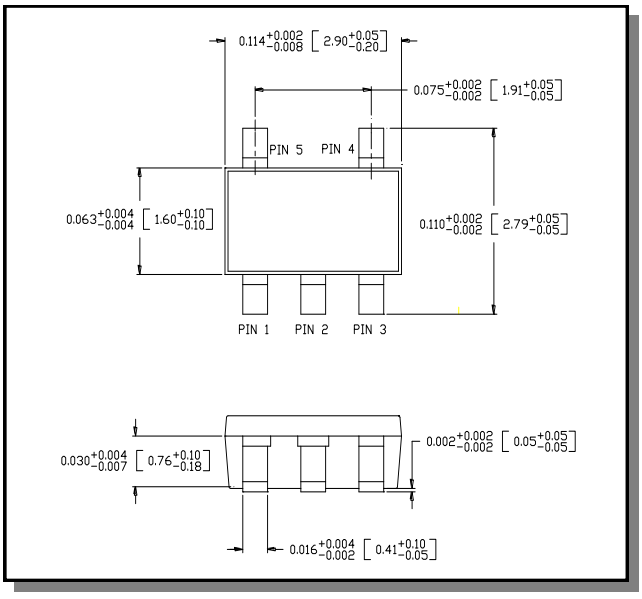
Isolation vs. Frequency



VSWR vs. Frequency



***Lead-Free,* SOT-25†**



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