

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

**MAPDCC0011
V1**

Features

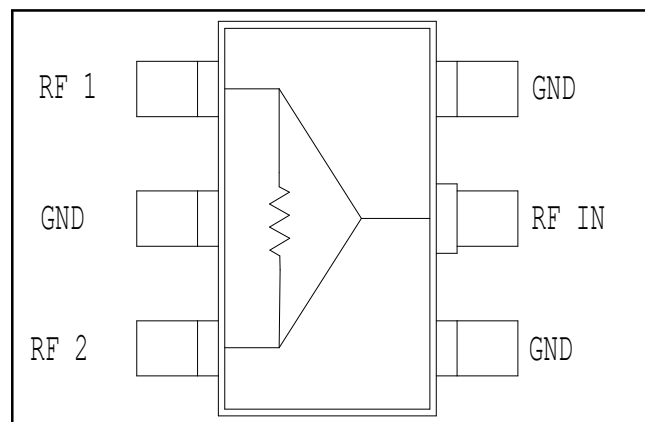
- Small Size and Low Profile
- Industry Standard SOT-26 SMT Plastic Package
- Typical Insertion Loss: 0.6 dB
- Typical Isolation: 15 dB
- 1 Watt Power Handling
- Lead-Free SOT-26 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS52-0008

Description

M/A-COM's MAPDCC0011 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOT-26 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 personal communication systems and other communication applications where size and PCB real estate are at a premium. Available in tape and reel.

The MAPDCC0011 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Diagram



Pin Configuration

Pin No.	Function	Pin No.	Function
1	RF1	4	GND
2	GND	5	RF IN
3	RF2	6	GND

Ordering Information

Part Number	Package
MAPDCC0011	Bulk Packaging
MAPDCC0011-TR	1000 piece reel
MAPDCC0011-TB	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Note: Die quantity varies.

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

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Electrical Specifications: $T_A = 25^\circ\text{C}^1$

Parameter	Units	Min	Typ	Max
Insertion Loss Above 3.0 dB	dB	—	0.6	0.8
Isolation	dB	13	15	—
VSWR Input RF1, RF2 Outputs	— —	— —	1.3:1 1.3:1	1.4:1 1.5:1
Amplitude Balance	dB	—	0.1	0.25
Phase Balance	Deg.	—	3	5

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

Absolute Maximum Ratings^{2,3}

Parameter	Absolute Maximum
Input Power ⁴	1W CW
Operating Temperature	-40°C to +85°C

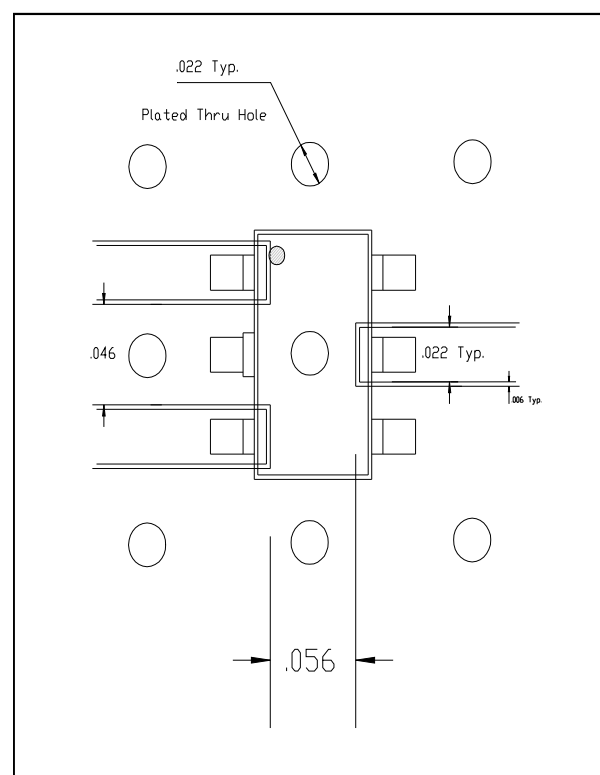
- Exceeding any one or combination of these limits may cause permanent damage to this device.
- M/A-COM does not recommend sustained operation near these survivability limits.
- With internal load dissipation of 0.125 W maximum.

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.

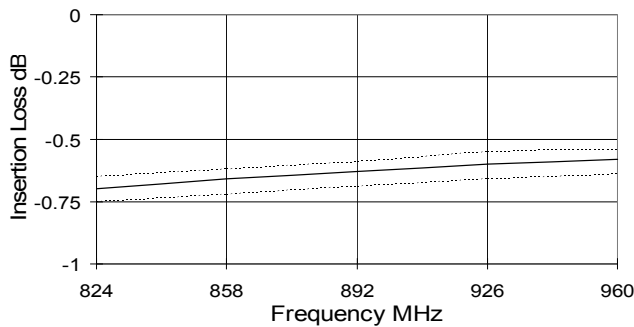
Recommended PCB Configuration


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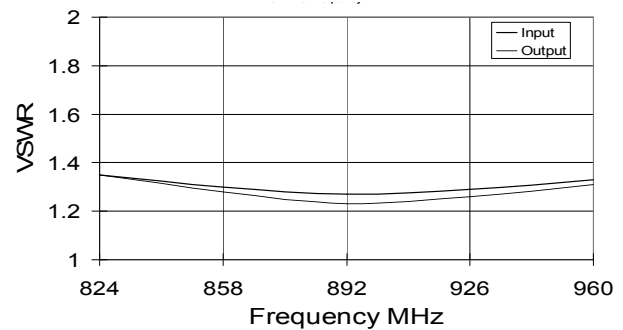
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Typical Performance Curves @ 25°C

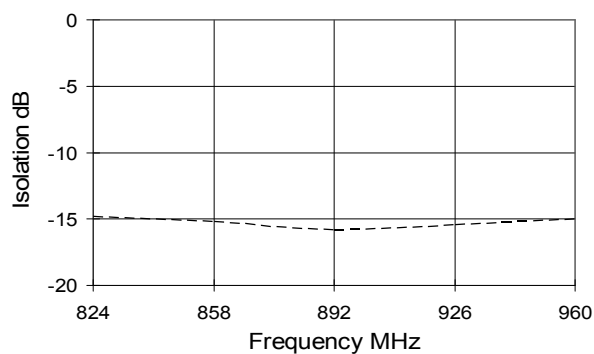
Insertion Loss vs. Frequency
(Dashed lines show amplitude balance window)



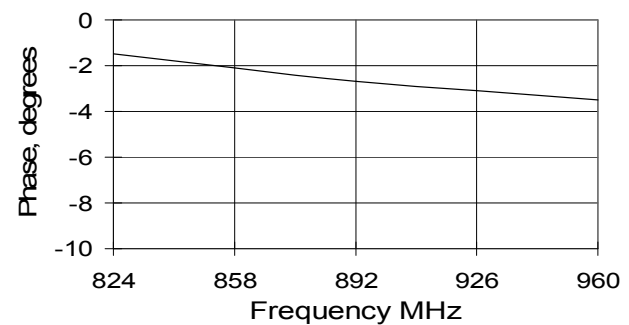
VSWR vs. Frequency



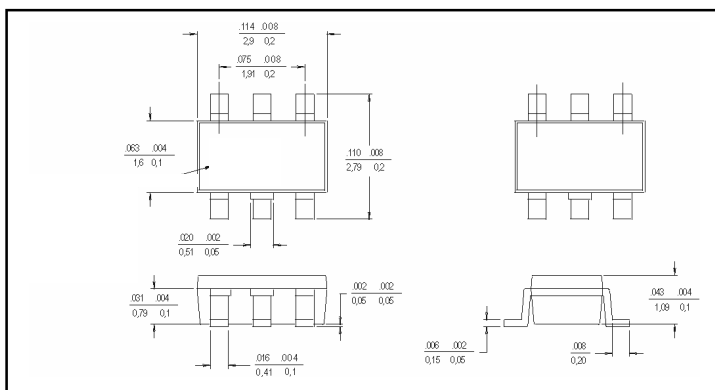
Isolation vs. Frequency



Phase Balance vs. Frequency
(Relative to RF1)



Lead-Free SOT-26[†]



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