## MAPDCC0011



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

Rev. V2

#### **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.

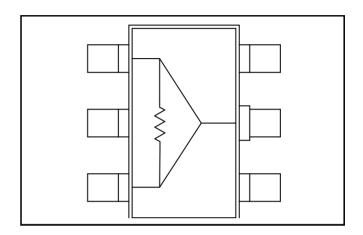
The MAPDCC0011 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

## **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.

#### **Functional Diagram**



#### **Pin Configuration**

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

<sup>\*</sup> Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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

Parameter	Units	Min	Тур	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

<sup>1.</sup> All specifications apply with a 50-ohm source and load impedance.

## **Absolute Maximum Ratings <sup>2,3</sup>**

Parameter	Absolute Maximum
Input Power <sup>4</sup>	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.
- 4. With internal load dissipation of 0.125 W maximum.

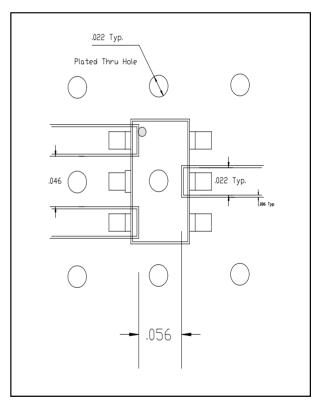
#### **Handling Procedures**

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**



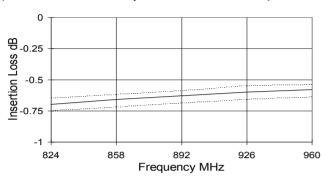


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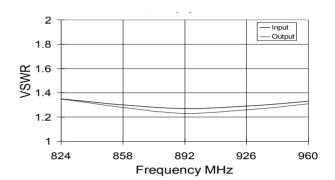
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### Typical Performance Curves @ 25°C

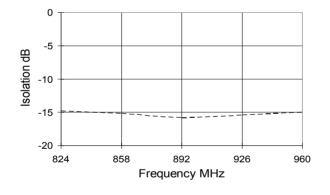
# Insertion Loss vs. Frequency (Dashed lines show amplitude balance window)



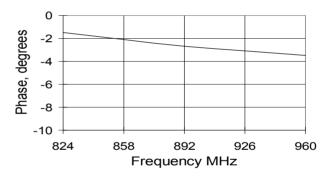
#### VSWR vs. Frequency



#### Isolation vs. Frequency



# Phase Balance vs. Frequency (Relative to RF1)

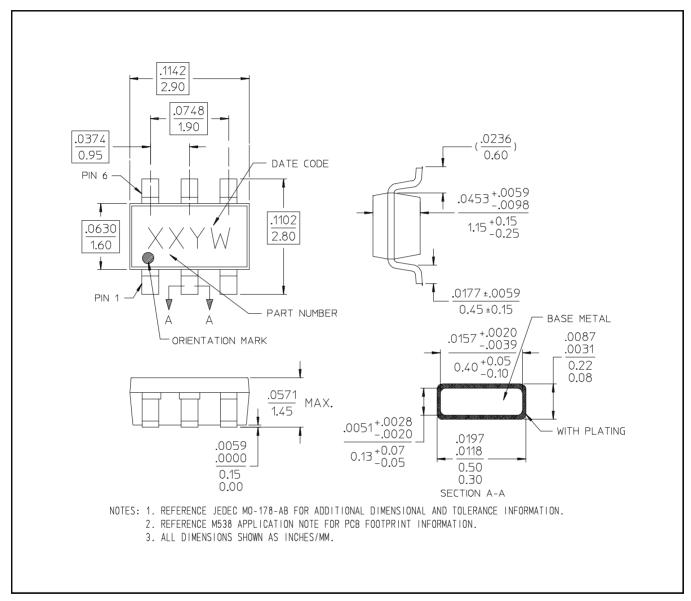




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#### Lead-Free SOT-26<sup>†</sup>



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

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