

# Low Cost Three-Way GMIC SMT Power Divider, 1850 - 1990 MHz

Rev. V3

#### **Features**

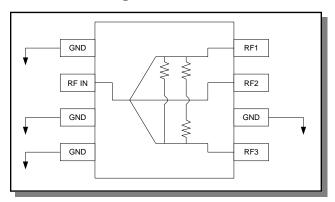
- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- **Excellent Amplitude and Phase Balance**
- Superior Repeatability
- Typical Insertion Loss: 1.0 dB
- Typical Isolation: 18 dB
- 1 Watt Power Handling
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS\* Compliant Version of DS53-0005

#### **Description**

M/A-COM's MAPDCC0006 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOIC-8 plastic package. This 3way 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 MAPDCC0006 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

### **Functional Diagram**



#### **Pin Configuration**

Pin No.	Function	Pin No.	Function
1	GND	5	RF3
2	RF IN	6	GND
3	GND	7	RF2
4	GND	8	RF1

## **Ordering Information**

Part Number	Package	
MAPDCC0006	Bulk Packaging	
MAPDCC0006TR	1000 piece reel	
MAPDCC0006-TB	Sample Test Board	

Note: Reference Application Note M513 for reel size information.

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

Parameter	Units	Min	Тур	Max
Insertion Loss above 4.8 dB	dB	_	1.0	1.4
Isolation	dB	12	18	_
VSWR Input	Ratio	_	1.8:1	2.0:1
Amplitude Balance	dB	_	0.3	0.6
Phase Balance	Deg.	_	7	14

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

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- India Tel: +91.80.4155721 China Tel: +86.21.2407.1588 Visit www.macomtech.com for additional data sheets and product information.

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



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

Parameter	Absolute Maximum		
Input Power 4	1W 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.
- 4. With internal load dissipation of 0.125W maximum.

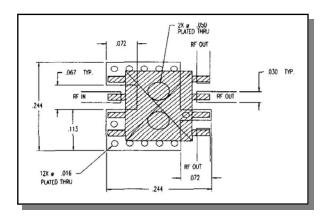
### **Handling Procedures**

Please observe the following precautions to avoid damage:

### Static Sensitivity

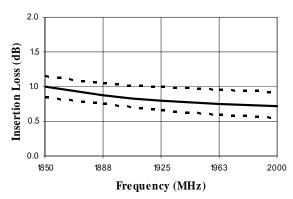
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

## **Recommended PIN Configuration**

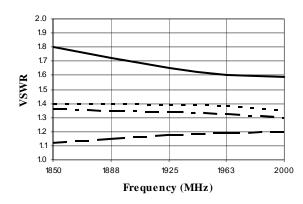


#### **Typical Performance Curves**

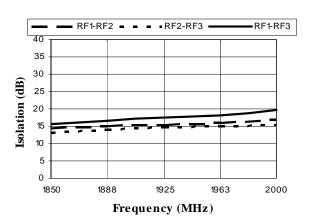
Insertion Loss (Dashed lines show amplitude balance window)



#### **VSWR**



#### Isolation



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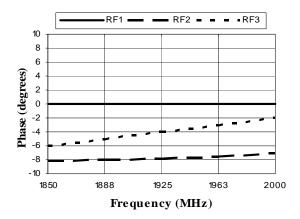


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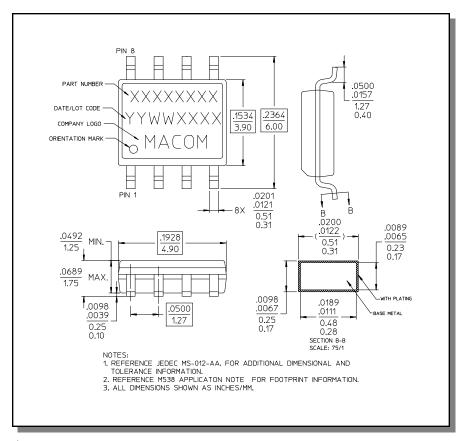
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### **Typical Performance Curves**

#### Phase Balance (Relative to RF1)



# Lead-Free, SOIC-8<sup>†</sup>



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

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