

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

M/A-COM Products Rev. 2

Features

- Low Cost
- Small Size and Low Profile
- Superior Repeatability (Lot-to-Lot Variation)
- Typical Insertion Loss: 0.8 dB
- Typical Isolation: 24 dB
- Typical Amplitude Balance: 0.3 dB
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free "Green" Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS54-0005

Description

M/A-COM's MAPDCC0009 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOIC-8 plastic package. This 4-way power divider is ideally suited for applications where PCB real estate is at a premium and standard packaging for automated assembly and low cost are critical. Typical applications include infrastructure, portables, and peripheral devices (PCMCIA cards) for wireless standards such as GSM, AMPS, CDPD, RAM, and ARDIS. Available in tape and reel.

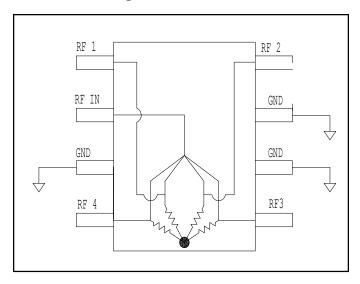
The MAPDCC0009 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

Ordering Information

Part Number	Package	
MAPDCC0009	Bulk Packaging	
MAPDCC0009-TR	2000 piece reel	
MAPDCC0009-TB	Sample Test Board	

Note: Reference Application Note M513 for reel size information

Functional Diagram



1. Pins 2, 6, and 7 must be DC and RF grounded.

Pin Configuration

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

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

ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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Visit www.macom.com for additional data sheets and product information.



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Electrical Specifications: $T_A = +25$ °C, $Z_0 = 50\Omega$

Parameter	Units	Min	Тур	Max
Insertion Loss Above 6.0 dB	dB	_	0.8	1.1
Isolation	dB	20	24	_
VSWR Input Output	_		1.4:1 1.25:1	1.7:1 1.5:1
Amplitude Balance	dB	_	0.3	0.6
Phase Balance	0	_	3	6

Absolute Maximum Ratings ^{2,3}

Parameter	Absolute Maximum
Input Power⁴	1W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

- 2. 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.

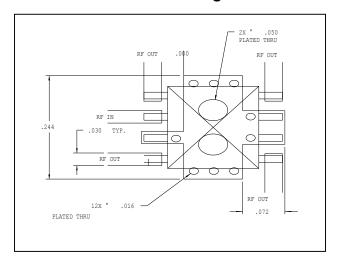
Handling Procedures

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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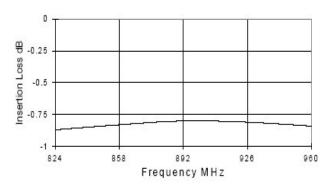


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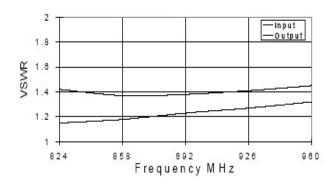
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Typical Performance Curves

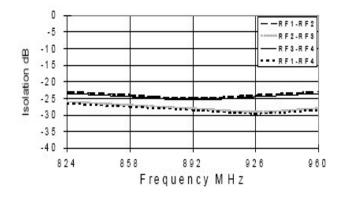
Insertion Loss vs. Frequency (Dashed lines show amplitude balance window)



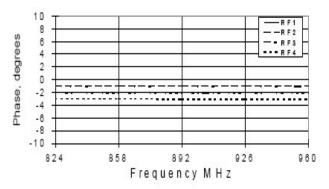
VSWR vs. Frequency



Isolation vs. Frequency



Phase Balance vs. Frequency (Relative to RF1)



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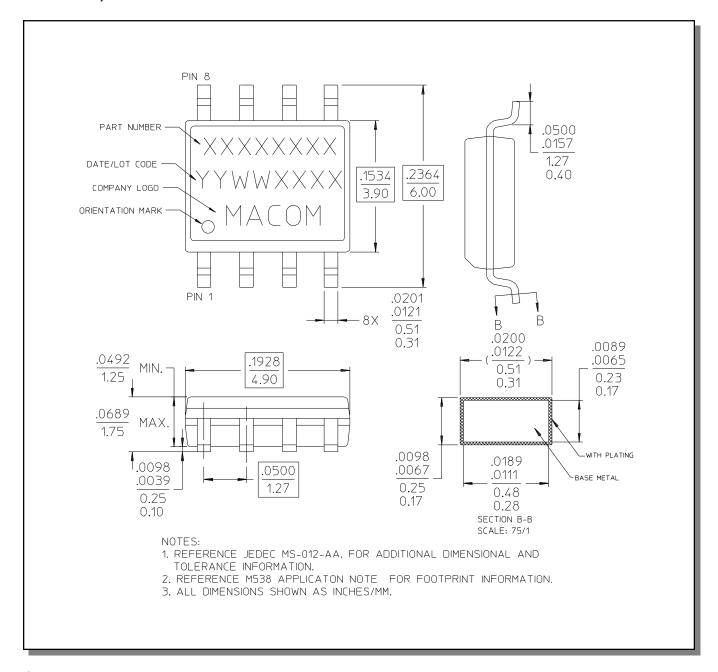
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M/A-COM Products

Lead-Free, SOIC-8[†]



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

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not quaranteed.

ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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