# Low Cost Two-Way GMIC SMT Power Divider 1700 – 2000 MHz

## Features

- Small Size and Low Profile
- Typical Insertion Loss: 0.6 dB
- Typical Amplitude Balance: 0.2 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 DS52-0014

### Description

M/A-COM's MAPD-007530-000100 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 handsets, base station switching networks and other communication applications where size and PCB real estate are at a premium. Available in Tape and Reel.

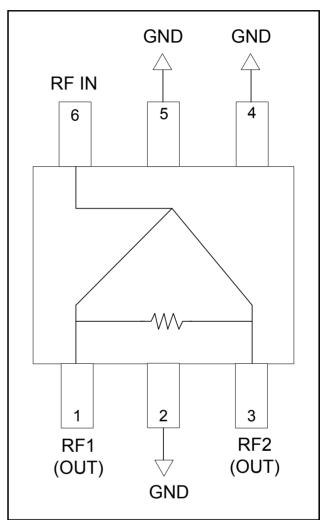
The MAPD-007530-000100 is fabricated using a passive integrated circuit process. The process features full-chip passivation for increased performance and reliability.

## **Ordering Information**

Part Number	Package
MAPD-007530-000100	Bulk Packaging
MAPD-007530-0001TR	1000 piece reel
MAPD-007530-0001TB	Sample Test Board

Note: Reference Application Note M513 for reel size information.

## Functional Diagram



### **Pin Configuration**

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

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

1

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

## Low Cost Two-Way GMIC SMT Power Divider 1700 – 2000 MHz

Rev. V2

MACOM

## **Electrical Specifications:** T<sub>A</sub> = 25°C<sup>1</sup>

Parameter	Test Conditions	Units	Min	Тур	Мах
Insertion Loss Above 3.0 dB	1700 - 2000 MHz	dB	_	0.6	0.8
Isolation	1700 - 2000 MHz	dB	16	20	—
VSWR Input RF1, RF2 Outputs	1700 - 2000 MHz 1700 - 2000 MHz	Ratio Ratio	_	1.2:1 1.1:1	1.4:1 1.3:1
Amplitude Balance	1700 - 2000 MHz	dB	_	0.2	0.4
Phase Balance	1700 - 2000 MHz	Deg.	—	1.5	3.0

1. 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		
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.

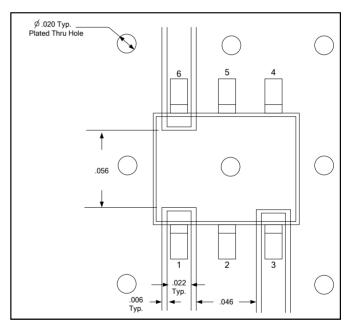
### **Handling Procedures**

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**

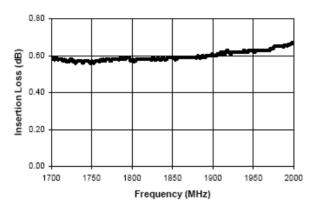


M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

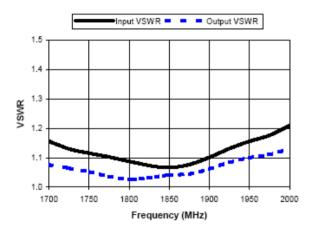
## Low Cost Two-Way GMIC SMT Power Divider 1700 – 2000 MHz

## Typical Performance Curves @ 25°C

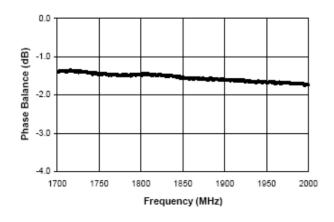
#### Insertion Loss vs. Frequency



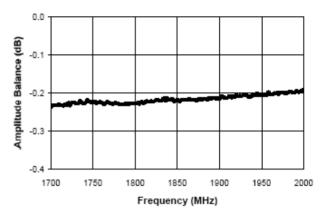
VSWR vs. Frequency



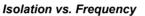
Phase Balance vs. Frequency

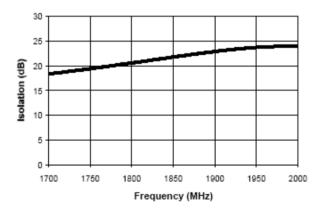


<sup>3</sup> 



#### Amplitude Balance vs. Frequency





M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.



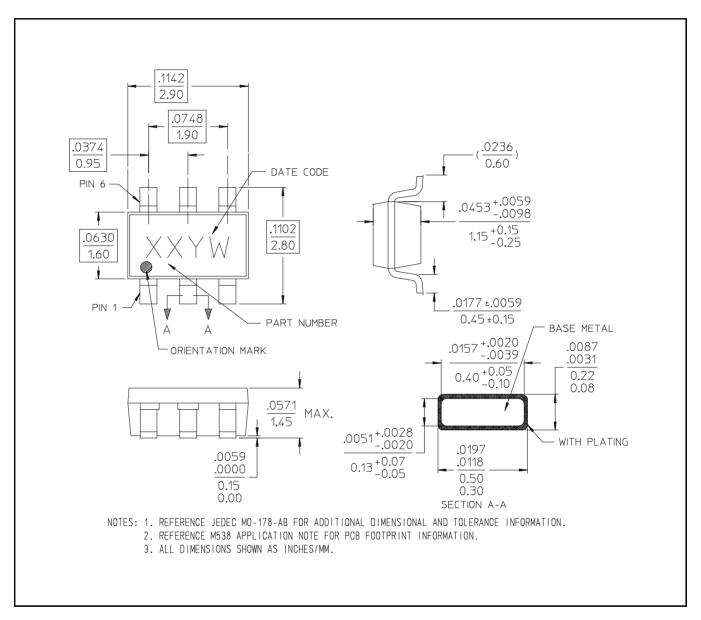
Rev. V2



## Low Cost Two-Way GMIC SMT Power Divider 1700 – 2000 MHz

Rev. V2

## Lead-Free SOT-26<sup>†</sup>



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

<sup>4</sup> 

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

Low Cost Two-Way GMIC SMT Power Divider 1700 – 2000 MHz



Rev. V2

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.

5

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.