MAPD-007530-000100

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

Rev. V2

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

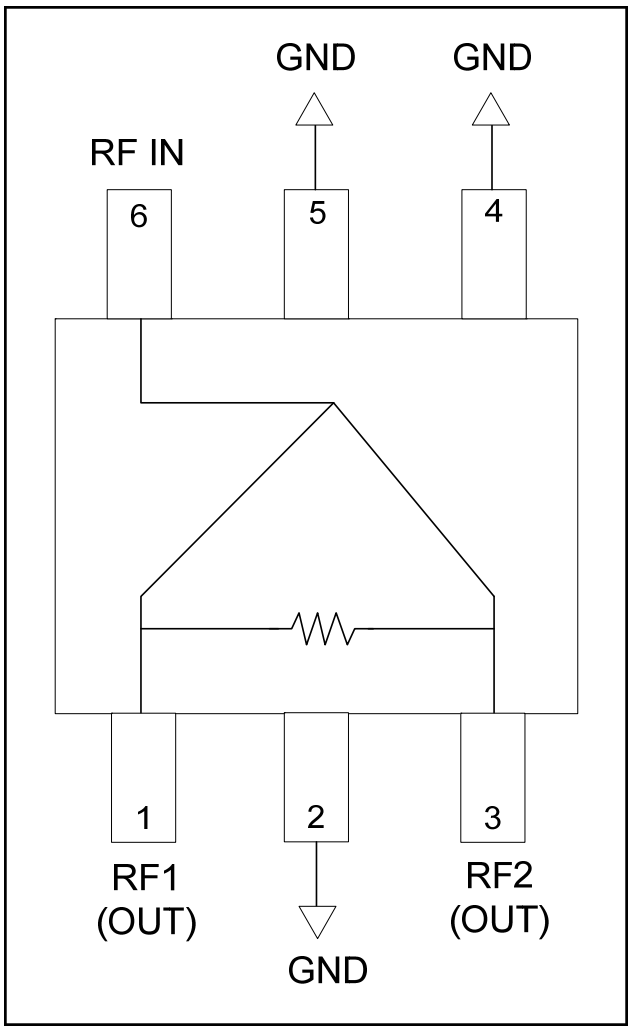
Description

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.

Functional Diagram



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.

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.

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Electrical Specifications: T_A = 25°C[1]

Parameter	Test Conditions	Units	Min	Typ	Max
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

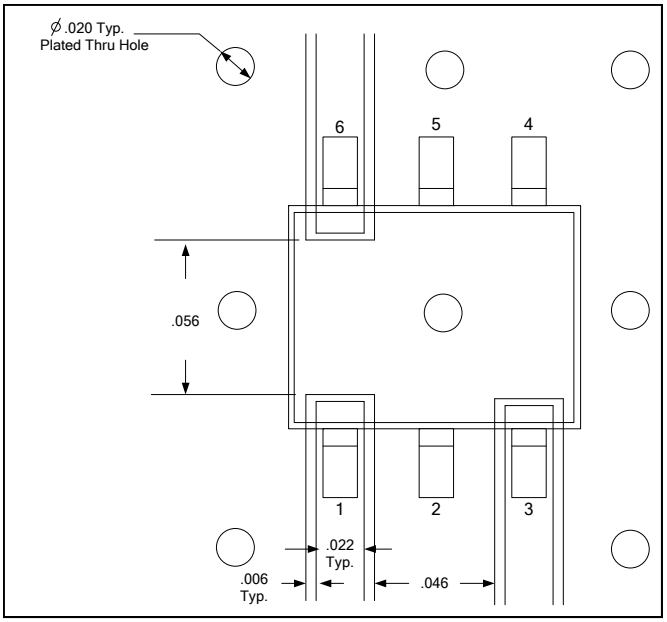
1. All specifications apply with a 50-ohm source and load impedance.

Absolute Maximum Ratings [2,3]

Parameter	Absolute Maximum
Input Power[4]	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.
3. M/A-COM does not recommend sustained operation near these survivability limits.
4. With internal load dissipation of 0.125 W maximum.

Recommended PCB Configuration



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."

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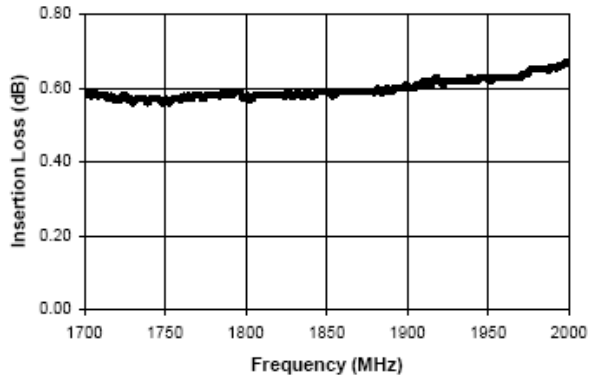
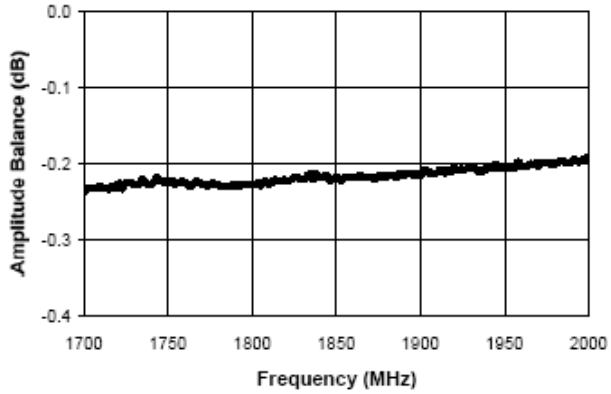
Typical Performance Curves @ 25ºC

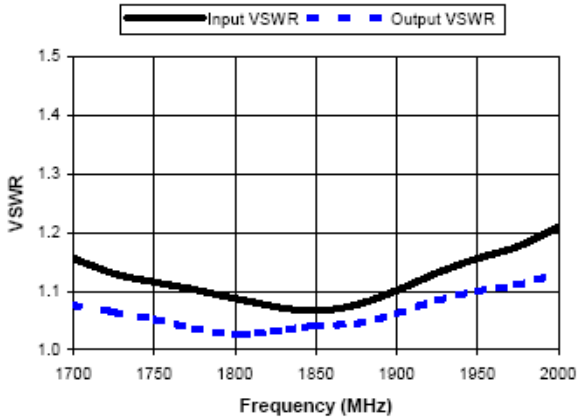
Insertion Loss vs. Frequency



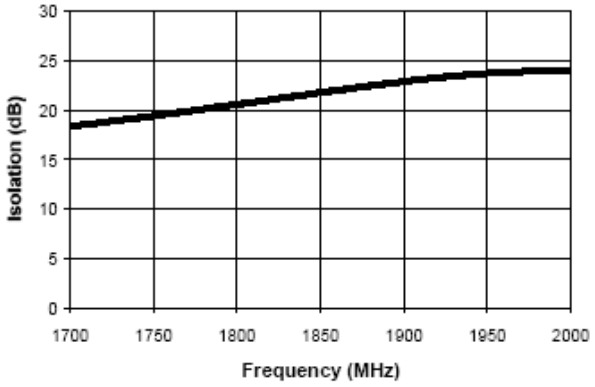
Amplitude Balance vs. Frequency



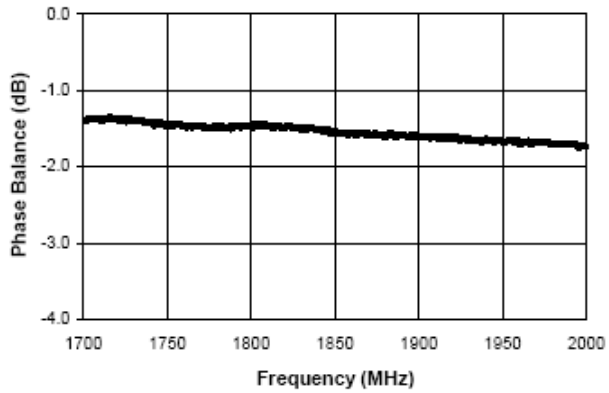
VSWR vs. Frequency



Isolation vs. Frequency



Phase Balance vs. Frequency



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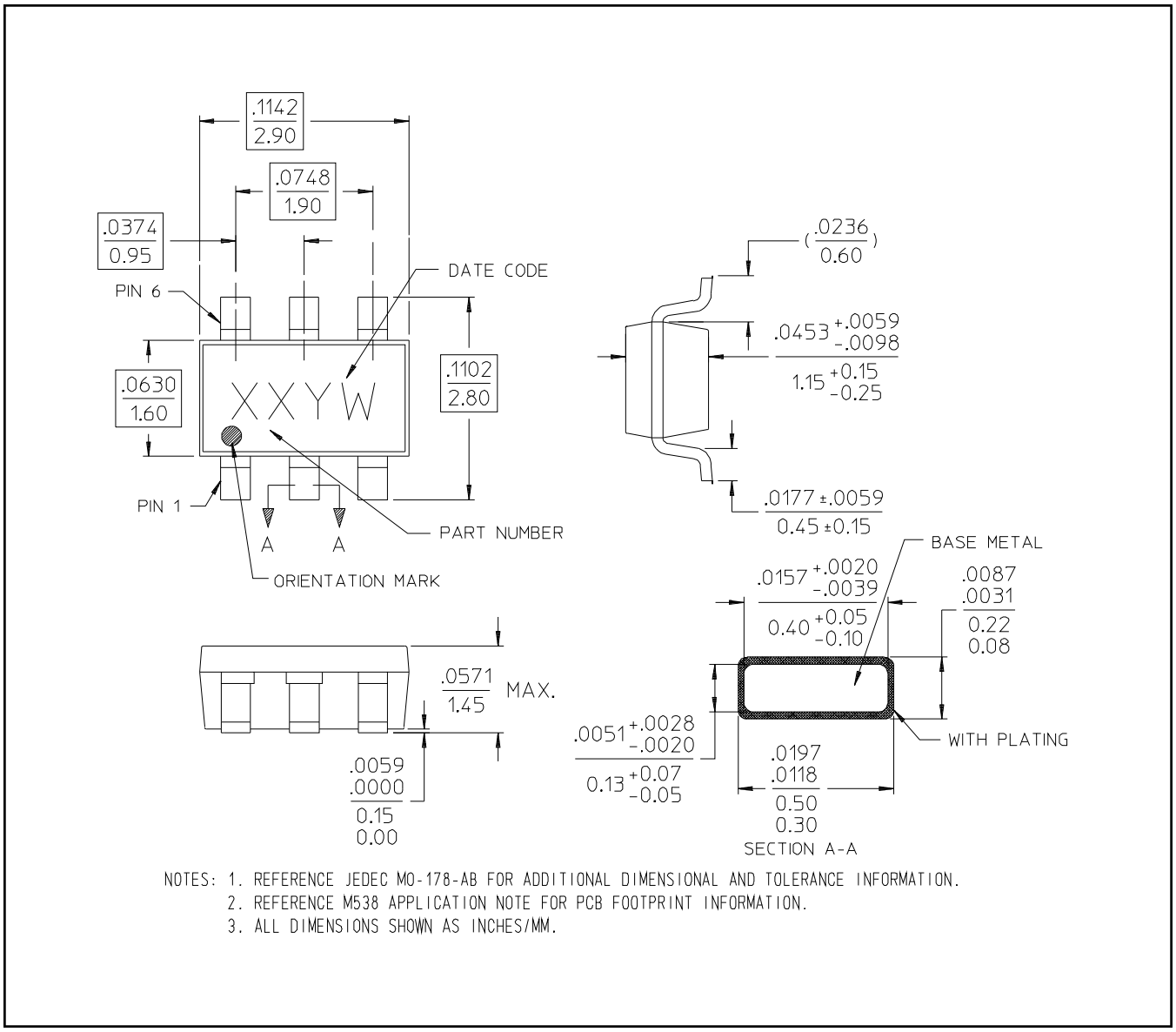
Lead-Free SOT-26†



NOTES: 1. REFERENCE JEDEC MO-178-AB FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.
2. REFERENCE M538 APPLICATION NOTE FOR PCB FOOTPRINT INFORMATION.
3. ALL DIMENSIONS SHOWN AS INCHES/MM.

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

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Телефон: 8 (812) 309-75-97 (многоканальный)
Факс: 8 (812) 320-03-32
Электронная почта: ocean@oceanchips.ru
Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А