MAPD-008016-000100



Low Cost Two-Way GMIC SMT Power Divider 1940-2340 MHz

Rev. V2

Features

- Designed for UMTS Band
- Small Size and Low Profile
- Industry Standard SOT-26 SMT Plastic Package
- Typical Insertion Loss: 0.4 dB
- Typical Isolation: 19 dB @ 2140MHz
- 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**

Description

M/A-COM's MAPD-008016-000100 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 personal communication systems and other communication applications where size and PCB real estate are at a premium. Available in tape and reel.

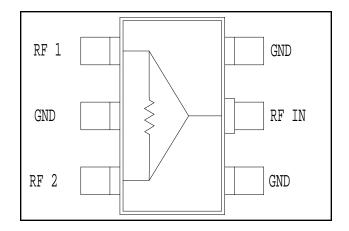
The MAPD-008016-000100 is fabricated using a passive-integrated circuit process. The process full-chip passivation for increased features performance and reliability.

Ordering Information

Part Number	Package	
MAPD-008016-000100	Bulk Packaging	
MAPD-008016-0001TR	1000 piece reel	
MAPD-008016-0001TB	Sample Test Board	

Note: Reference Application Note M513 for reel size information.

Functional Diagram



Pin Configuration

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

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

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

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

Parameter	Units	Min	Тур	Max
Insertion Loss Above 3.0 dB	dB	_	0.4	0.7
Isolation	dB	13	19.0	_
VSWR Input RF1, RF2 Outputs	_	_	1.3:1 1.4:1	1.4:1 1.5:1
Amplitude Balance	dB	_	0.05	0.1
Phase Balance	degrees	_	0.5	2.0

^{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

- 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.

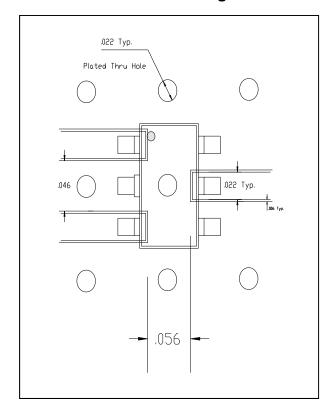
Handling Procedures

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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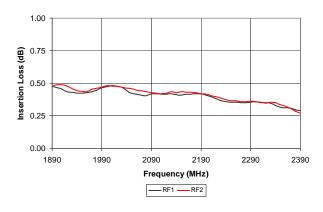


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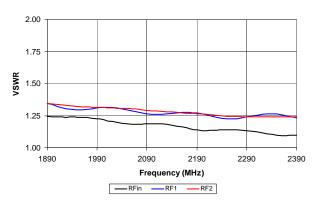
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Typical Performance Curves @ 25°C

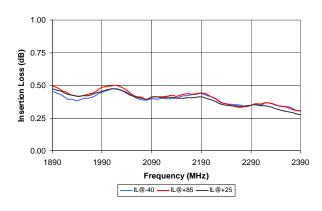
Insertion Loss vs. Frequency



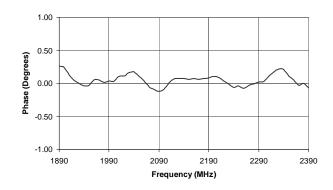
VSWR vs. Frequency



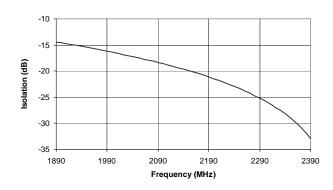
Insertion Loss vs. Temperature



Phase Balance vs. Frequency (Relative to RF1)



Isolation vs. Frequency



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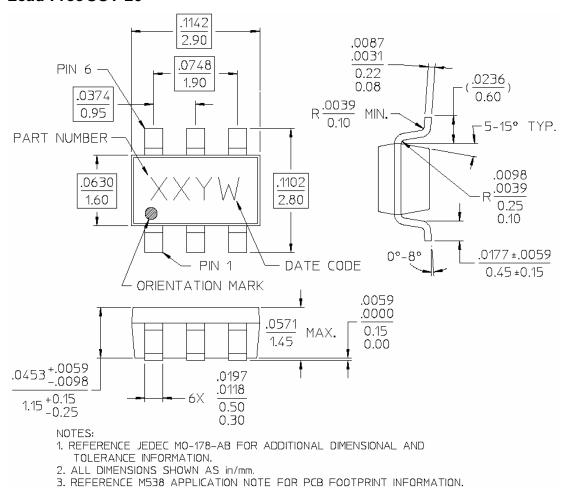
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Lead-Free SOT-26[†]



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

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