

Features

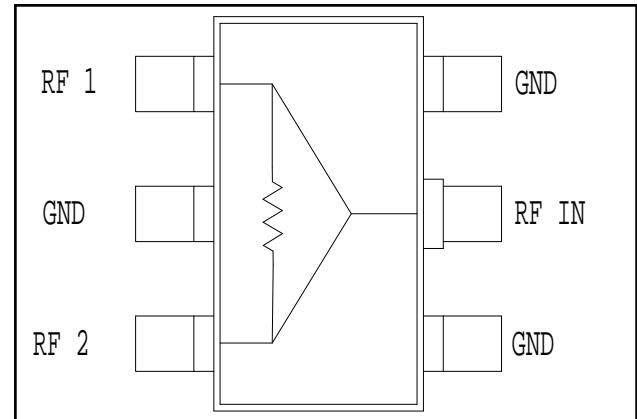
- Designed for UMTS Band
- Small Size and Low Profile
- Industry Standard SOT-26 SMT Plastic Package
- Typical Insertion Loss: 0.4 dB
- Typical Isolation: 19 dB @ 2140MHz
- 1 Watt Power Handling
- Lead-Free SOT-26 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C 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 features full-chip passivation for increased performance and reliability.

Functional Diagram



Pin Configuration

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

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.

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

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

Parameter	Units	Min	Typ	Max
Insertion Loss Above 3.0 dB	dB	—	0.4	0.7
Isolation	dB	13	19.0	—
VSWR Input	—	—	1.3:1	1.4:1
RF1, RF2 Outputs	—	—	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

- 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.
- With internal load dissipation of 0.125 W maximum.

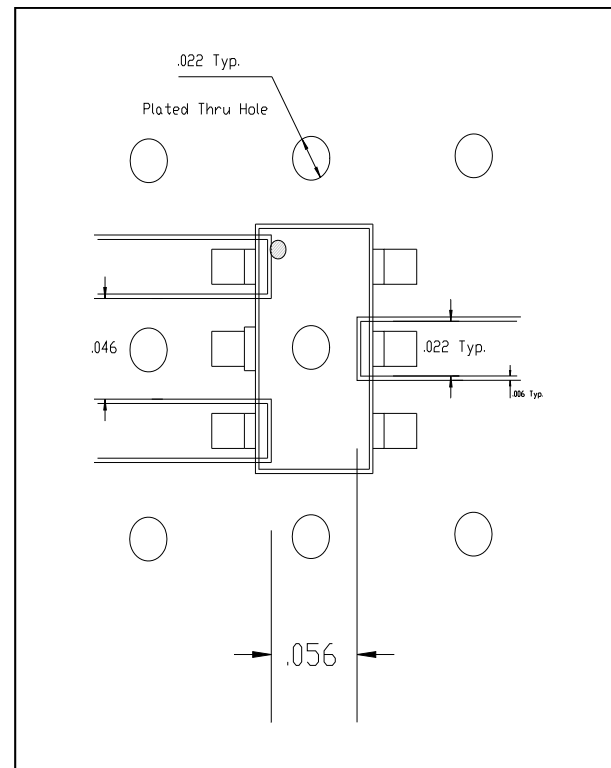
Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

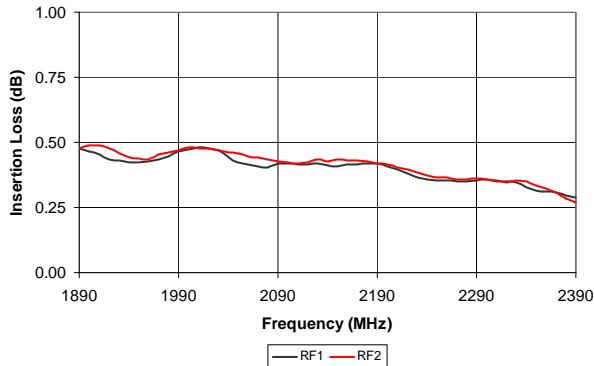
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Recommended PCB Configuration

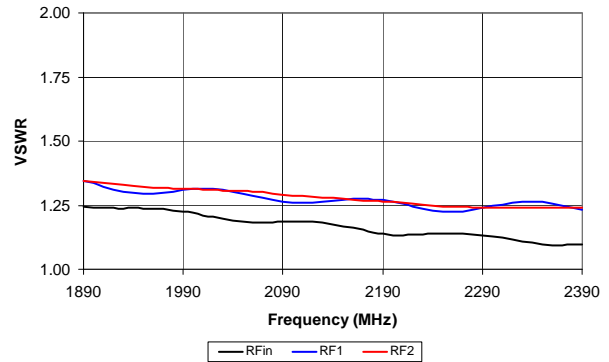


Typical Performance Curves @ 25°C

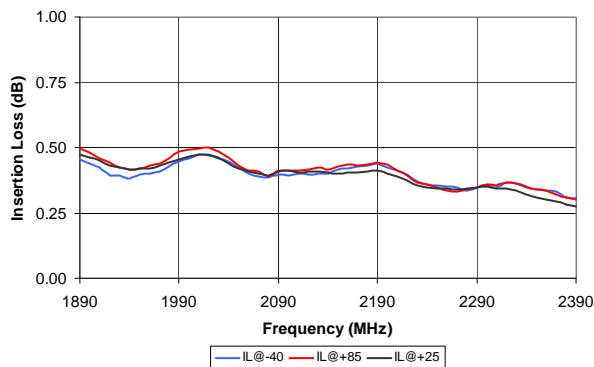
Insertion Loss vs. Frequency



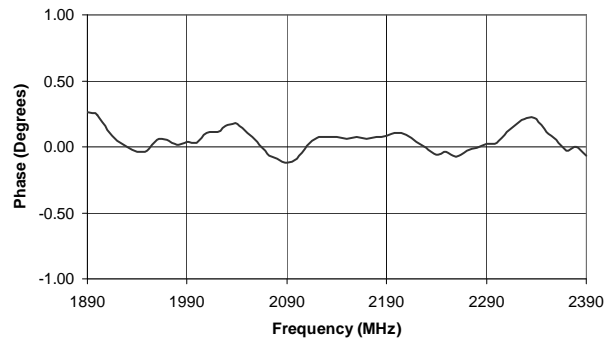
VSWR vs. Frequency



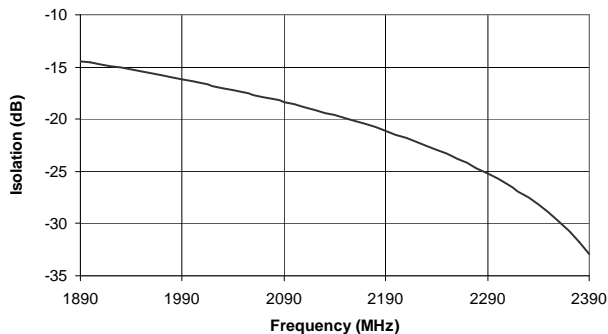
Insertion Loss vs. Temperature



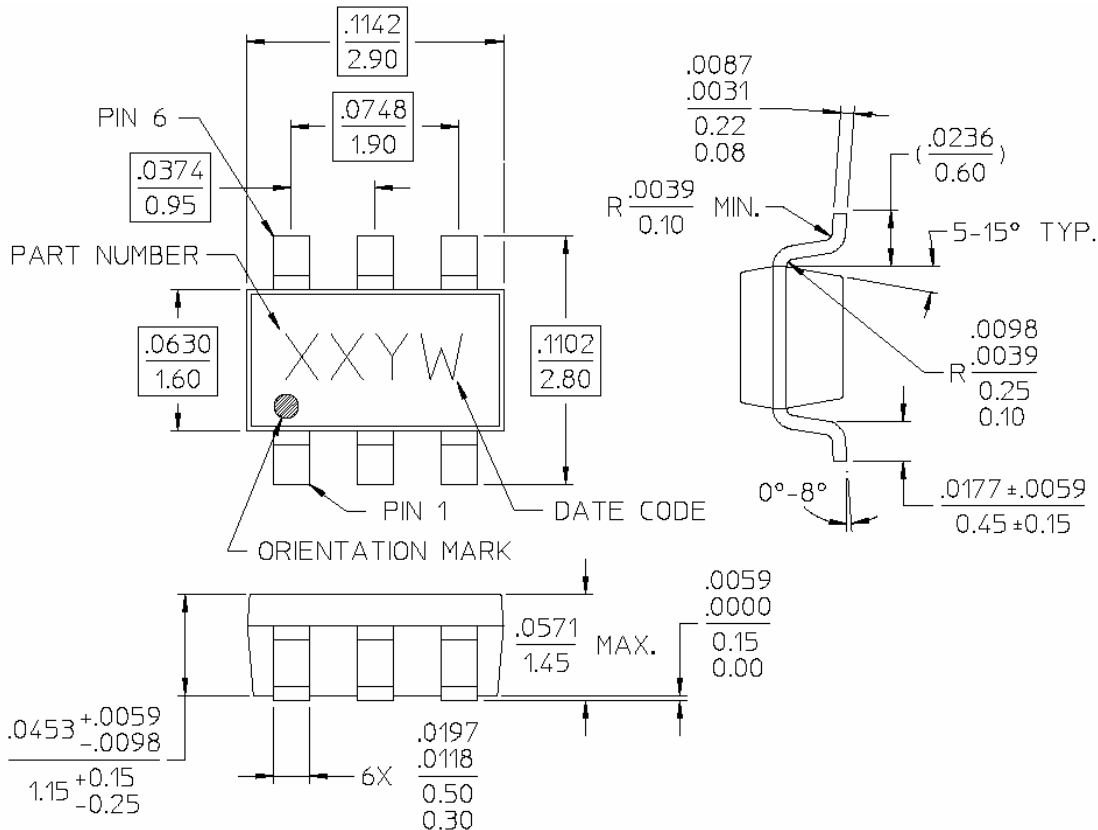
Phase Balance vs. Frequency (Relative to RF1)



Isolation vs. Frequency



Lead-Free SOT-26[†]



NOTES:

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

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