

Features

- Small Size and Low Profile
- Industry Standard SOW-16 SMT Plastic Package
- Excellent Repeatability (Lot-to-Lot Variation)
- Typical Isolation: 18 dB
- Typical Amplitude Balance: 0.1 dB
- Low Cost
- Typical Insertion Loss: 1.0 dB
- Lead-Free SOW-16 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS54-0002

Description

M/A-COM's MAPDCC0008 is an IC-based monolithic power splitter/combiner in a low cost SOW-16 plastic package. This device 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.

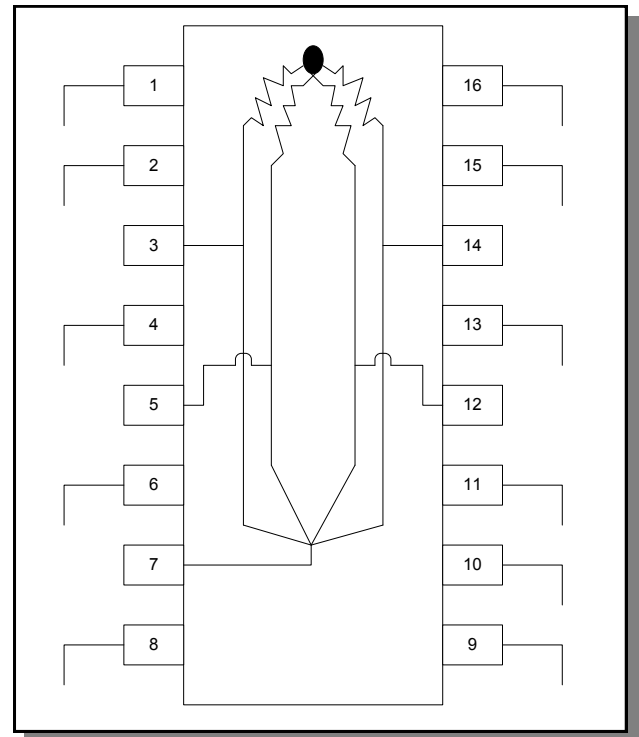
The MAPDCC0008 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Ordering Information

Part Number	Package
MAPDCC0008	Bulk Packaging
MAPDCC0008TR	1000 piece reel
MAPDCC0008-TB	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Functional Block Diagram



Pin Configuration

Pin No.	Function	Pin No.	Function
1	GND	9	GND
2	GND	10	GND
3	RF2 (OUT)	11	GND
4	GND	12	RF4 (OUT)
5	RF1 (OUT)	13	GND
6	GND	14	RF3 (OUT)
7	RF IN	15	GND
8	GND	16	GND

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

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss (Above 6.0 dB)	—	—	dB	—	1.0	1.5
Isolation	—	1700 - 1800 MHz 1801 - 2000 MHz	dB dB	18 17	23 22	— —
Input VSWR	—	—	Ratio	—	1.5:1	1.7:1
Output VSWR	—	1700 - 1800 MHz 1801 - 2000 MHz	Ratio Ratio	— —	— —	1.3:1 1.5:1
Amplitude Balance	—	—	dB	—	0.1	0.7
Phase Balance	—	—	Deg	—	4	7

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

- 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 0.125W maximum.

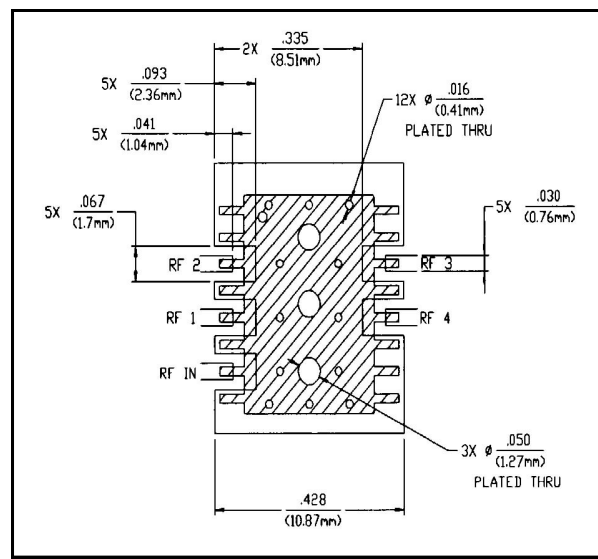
Handling Procedures

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



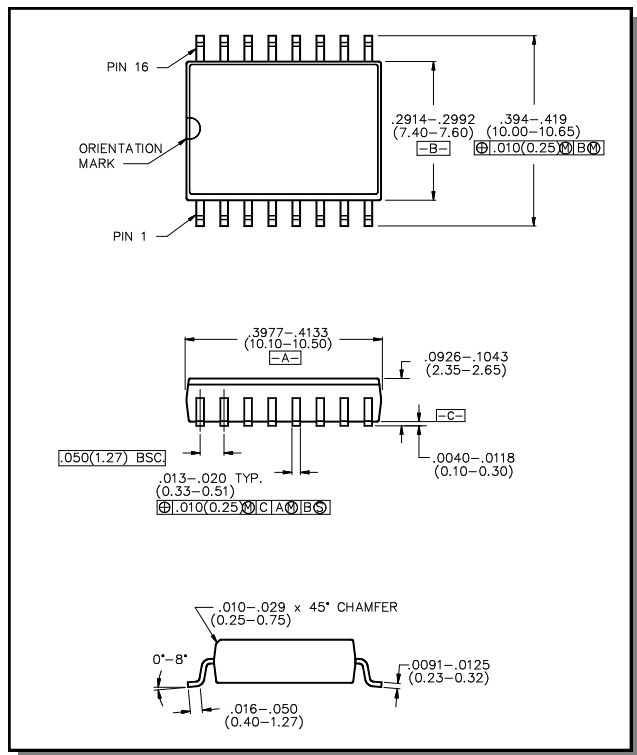
M/A-COM Technology Solutions Inc. All rights reserved.

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 estoppel 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.

Lead-Free, SOW-16[†]



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