MAPDCC0008

Low Cost Four-Way SMT Power Splitter/Combiner, 1700 - 2000 MHz

Rev. V3

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.

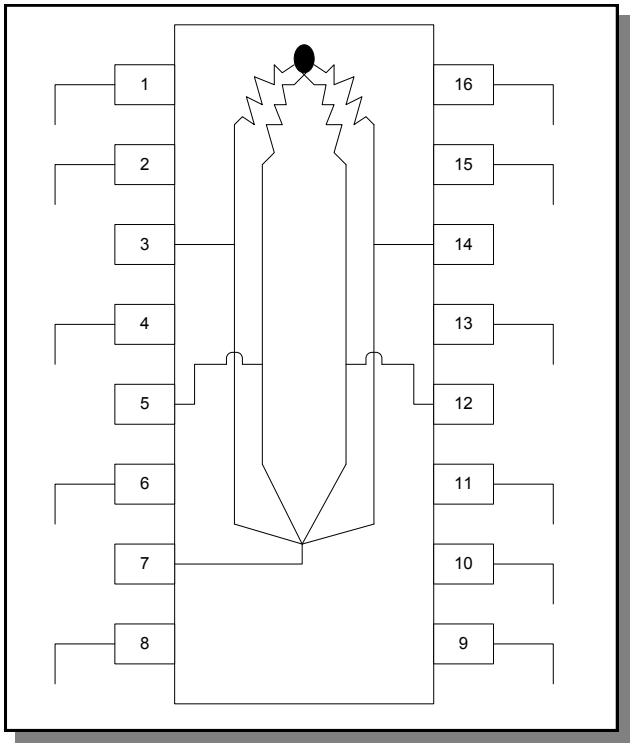
The MAPDCC0008 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

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

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

Electrical Specifications: T_A = 25°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

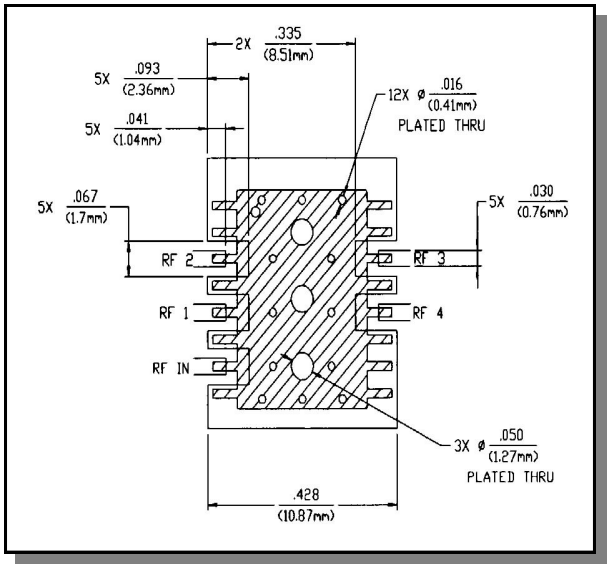
1. All specifications apply with a 50-ohm source and load impedance.

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

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 0.125W maximum.

Recommended PCB Configuration



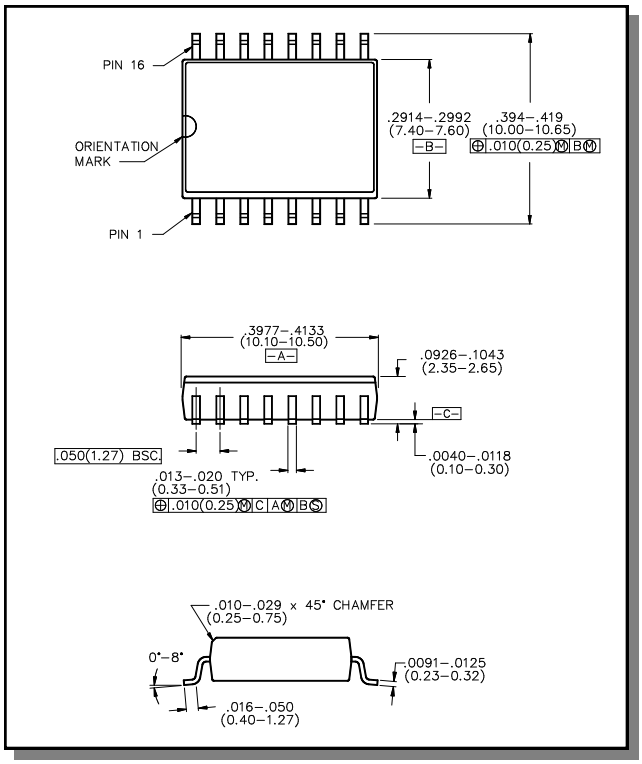
Handling Procedures

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.

Lead-Free, SOW-16†



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