

Features

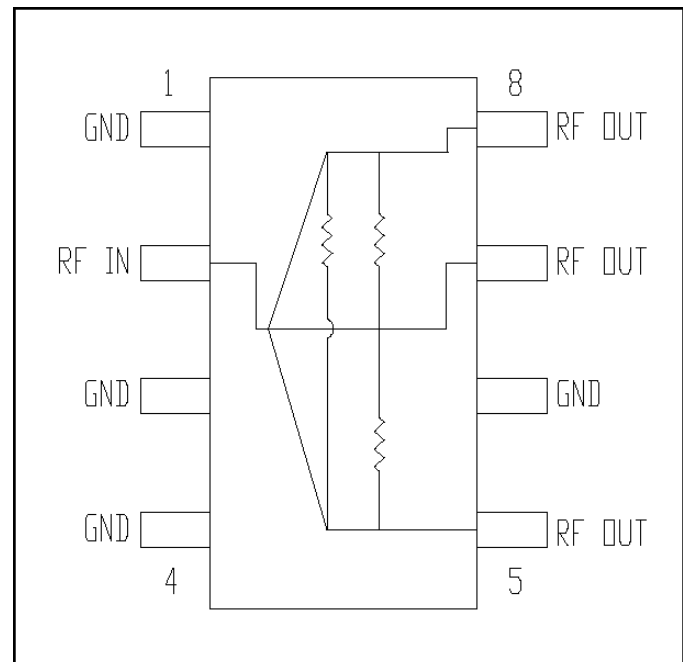
- Small Size and Low Profile
- Excellent Insertion Loss 0.6 dB Typical
- Superior Repeatability
- Low Cost
- CSM, AMPS, CDPD, ARDIS, RAM Frequency Coverage
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS53-0001

Description

M/A-COM’s MAPDCC0005 is an IC-based monolithic power divider in a low cost SOIC-8 plastic package. This 3-way power divider is ideally suited for applications where small size, low profile, and low cost without sacrificing Performance, are required. Typical applications include Base Stations, portables and PCMCIA cards for cellular applications. Available in Tape and Reel.

The MAPDCC0005 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram¹



1. All unused pins must be RF and DC grounded.

Ordering Information

| Part Number | Package |
|---------------|-------------------|
| MAPDCC0005 | Bulk Packaging |
| MAPDCC0005TR | 1000 piece reel |
| MAPDCC0005-TB | Sample Test Board |

Note: Reference Application Note M513 for reel size information.

Pin Configuration

| Pin No. | Function | Pin No. | Function |
|---------|----------|---------|----------|
| 1 | GND | 5 | RF OUT |
| 2 | RF IN | 6 | GND |
| 3 | GND | 7 | RF OUT |
| 4 | GND | 8 | RF OUT |

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

Low Cost Three Way Power Splitter/Combiner 824 – 960 MHz

Rev. V3

Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\Omega$

| Parameter | Units | Min | Typ | Max |
|------------------------------|-------|-----|-------|-------|
| Insertion Loss above 4.78 dB | dB | — | 0.6 | 0.7 |
| Isolation | dB | 15 | 18 | — |
| VSWR | — | — | 1.4:1 | 1.6:1 |
| Amplitude Balance | dB | — | 0.6 | 0.8 |
| Phase Balance | Deg | — | 2 | 4 |

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 0.125 W Maximum.

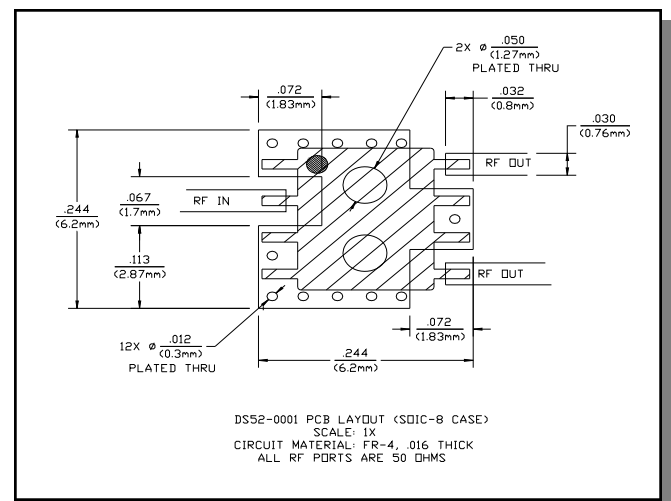
Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

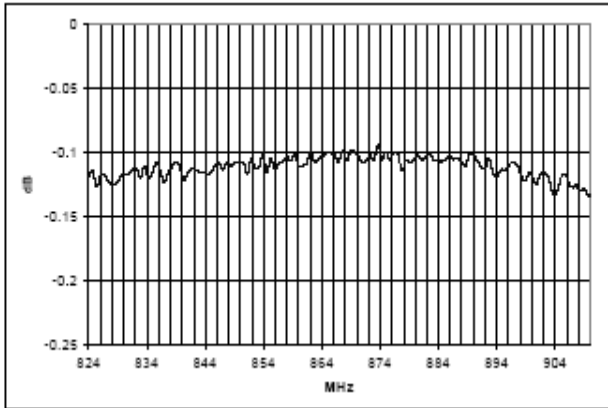
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Recommended PCB Configuration

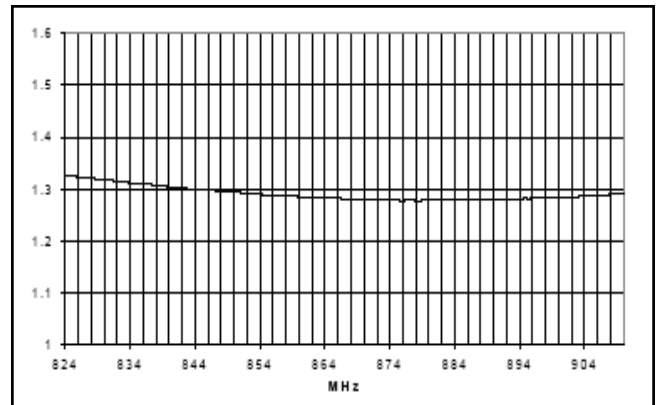


Typical Performance Curves

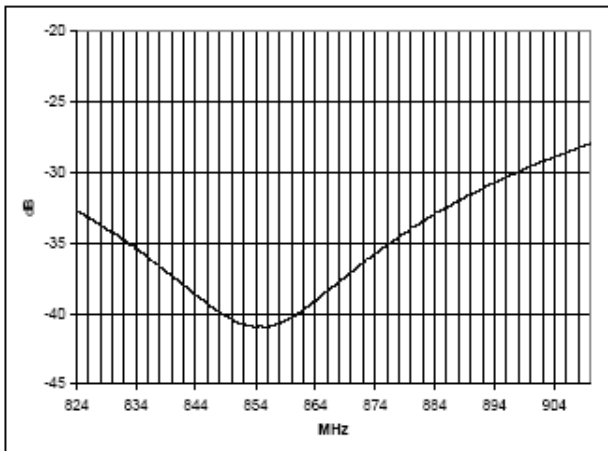
Insertion Loss vs. Frequency



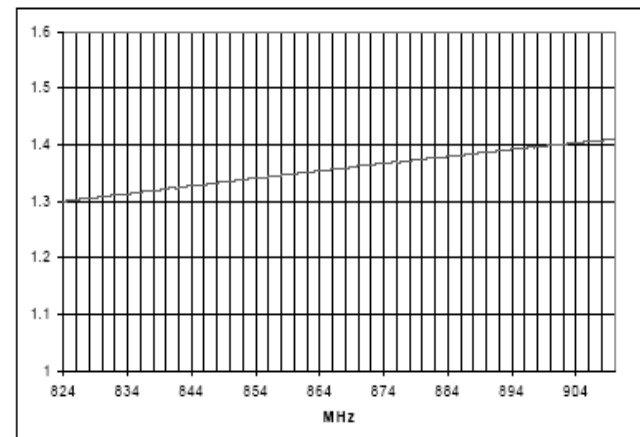
VSWR Input vs. Frequency



Isolation vs. Frequency



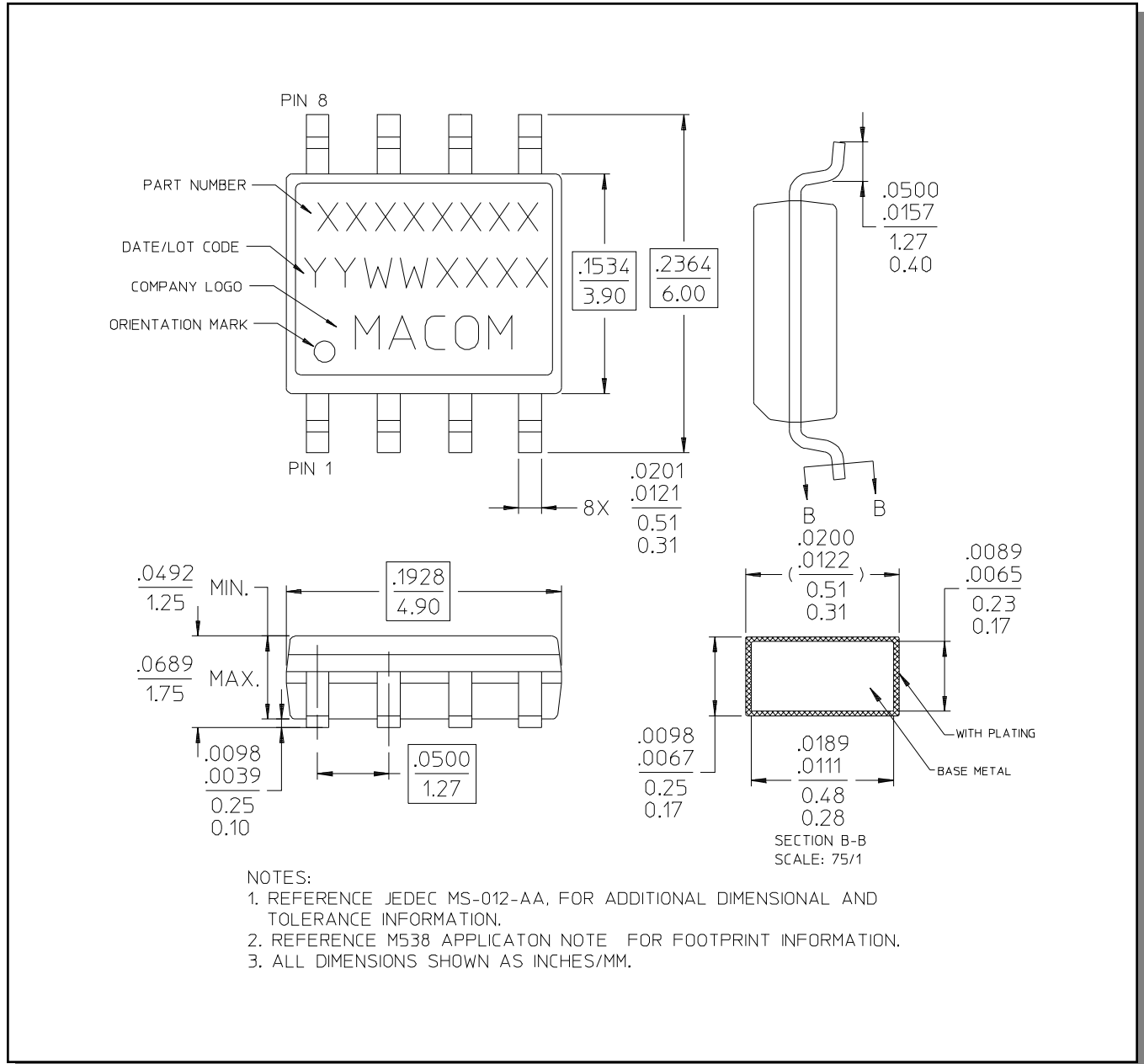
VSWR Output vs. Frequency



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Lead-Free, SOIC-8[†]



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