Features

- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.7 dB
- Typical Isolation 21 dB
- 1 Watt Power Handling
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS52-0002

Description

M/A-COM’s MAPDCC0002 is an IC-based monolithic power divider in a low cost SOIC-8 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 base station switching networks and other communication applications where size and PCB real estate are a premium. Available in tape and reel.

The MAPDCC0002 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPDCC0002</td>
<td>Bulk Packaging</td>
</tr>
<tr>
<td>MAPDCC0002TR</td>
<td>1000 piece reel</td>
</tr>
<tr>
<td>MAPDCC0002-TB</td>
<td>Sample Test Board</td>
</tr>
</tbody>
</table>

Note: Reference Application Note M513 for reel size information.

**Low Cost Two-Way SMT Power Divider, 1850 - 1990 MHz**

**Electrical Specifications**\(^1\): \( T_A = 25^\circ C\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Frequency</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss</td>
<td>Above 3.0 dB</td>
<td>1850 - 1990</td>
<td>dB</td>
<td>—</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Isolation</td>
<td></td>
<td>1850 - 1990</td>
<td>dB</td>
<td>15</td>
<td>21</td>
<td>—</td>
</tr>
<tr>
<td>VSWR</td>
<td>Input RL</td>
<td>1850 - 1990</td>
<td>Ratio</td>
<td>—</td>
<td>1.2:1</td>
<td>1.4:1</td>
</tr>
<tr>
<td>VSWR</td>
<td>Output RL</td>
<td>1850 - 1990</td>
<td>Ratio</td>
<td>—</td>
<td>1.4:1</td>
<td>1.6:1</td>
</tr>
<tr>
<td>Amplitude Balance</td>
<td></td>
<td>1850 - 1990</td>
<td>dB</td>
<td>—</td>
<td>0.05</td>
<td>0.15</td>
</tr>
<tr>
<td>Phase Balance</td>
<td></td>
<td>1850 - 1990</td>
<td>Deg.</td>
<td>—</td>
<td>1.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

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

**Absolute Maximum Ratings**\(^2,3\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power (^4)</td>
<td>1W CW</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +150°C</td>
</tr>
</tbody>
</table>

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

**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.
Typical Performance Curves

**Insertion Loss vs. Frequency**
(above theoretical split loss)

**Isolation vs. Frequency**

**Input VSWR vs. Frequency**

**Output VSWR vs. Frequency**
Low Cost Two-Way SMT Power Divider, 1850 - 1990 MHz

Lead-Free, SOIC-8†

NOTES:
1. REFERENCE JEDEC MS-012-AA FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.
2. REFERENCE M538 APPLICATION NOTE FOR FOOTPRINT INFORMATION.
3. ALL DIMENSIONS SHOWN AS INCHES/MM.

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