MAPDCC0011

Low Cost Two-Way GMIC SMT Power Divider
824 – 960 MHz

Features
- Small Size and Low Profile
- Industry Standard SOT-26 SMT Plastic Package
- Typical Insertion Loss: 0.6 dB
- Typical Isolation: 15 dB
- 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 Version of DS52-0008

Description
M/A-COM’s MAPDCC0011 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 MAPDCC0011 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>MAPDCC0011</td>
<td>Bulk Packaging</td>
</tr>
<tr>
<td>MAPDCC0011-TR</td>
<td>1000 piece reel</td>
</tr>
<tr>
<td>MAPDCC0011-TB</td>
<td>Sample Test Board</td>
</tr>
</tbody>
</table>

Note: Reference Application Note M513 for reel size information.

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss Above 3.0 dB</td>
<td>dB</td>
<td>—</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Isolation</td>
<td>dB</td>
<td>13</td>
<td>15</td>
<td>—</td>
</tr>
<tr>
<td>VSWR Input</td>
<td>—</td>
<td>—</td>
<td>1.3:1</td>
<td>1.4:1</td>
</tr>
<tr>
<td>RF1, RF2 Outputs</td>
<td>—</td>
<td>—</td>
<td>1.3:1</td>
<td>1.5:1</td>
</tr>
<tr>
<td>Amplitude Balance</td>
<td>dB</td>
<td>—</td>
<td>0.1</td>
<td>0.25</td>
</tr>
<tr>
<td>Phase Balance</td>
<td>Deg.</td>
<td>—</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

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

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>1W CW</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°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 0.125 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.
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Typical Performance Curves @ 25°C

**Insertion Loss vs. Frequency**
(Dashed lines show amplitude balance window)

**VSWR vs. Frequency**

**Isolation vs. Frequency**

**Phase Balance vs. Frequency**
(Relative to RF1)
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Rev. V2

MAPDCC0011

Lead-Free SOT-26†

NOTES: 1. REFERENCE JEDEC MO-178-A9 FOR ADDITIONAL DIMENSIONAL AND TOLERANCE INFORMATION.
2. REFERENCE M538 APPLICATION NOTE FOR PCB FOOTPRINT INFORMATION.
3. ALL DIMENSIONS SHOWN AS INCHES/MM.

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