MAPD-007530

Low Cost Two-Way GMIC SMT Power Divider
1700 – 2000 MHz

Rev. V2

Features
- Small Size and Low Profile
- Typical Insertion Loss: 0.6 dB
- Typical Amplitude Balance: 0.2 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 DS52-0014

Description
M/A-COM's MAPD-007530-000100 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 handsets, base station switching networks and other communication applications where size and PCB real estate are at a premium. Available in Tape and Reel.

The MAPD-007530-000100 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>MAPD-007530-000100</td>
<td>Bulk Packaging</td>
</tr>
<tr>
<td>MAPD-007530-0001TR</td>
<td>1000 piece reel</td>
</tr>
<tr>
<td>MAPD-007530-0001TB</td>
<td>Sample Test Board</td>
</tr>
</tbody>
</table>

Note: Reference Application Note M513 for reel size information.

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RF1 (OUT)</td>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>RF2 (OUT)</td>
<td>6</td>
<td>RF IN</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</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>1700 - 2000 MHz</td>
<td>dB</td>
<td>—</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Isolation</td>
<td>1700 - 2000 MHz</td>
<td>dB</td>
<td>16</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>VSWR: Input Ratio</td>
<td>1700 - 2000 MHz</td>
<td>Ratio</td>
<td>—</td>
<td>1.2:1</td>
<td>1.4:1</td>
</tr>
<tr>
<td>RF1, RF2 Output Ratio</td>
<td>1700 - 2000 MHz</td>
<td>Ratio</td>
<td>—</td>
<td>1.1:1</td>
<td>1.3:1</td>
</tr>
<tr>
<td>Amplitude Balance</td>
<td>1700 - 2000 MHz</td>
<td>dB</td>
<td>—</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Phase Balance</td>
<td>1700 - 2000 MHz</td>
<td>Deg.</td>
<td>—</td>
<td>1.5</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 0.125 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.
Typical Performance Curves @ 25°C

**Insertion Loss vs. Frequency**

**Amplitude Balance vs. Frequency**

**VSWR vs. Frequency**

**Isolation vs. Frequency**

**Phase Balance vs. Frequency**
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Lead-Free SOT-26†

NOTES: 1. REFERENCE JEDEC MO-178-AB 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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Revised: V2

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