MAPD-011007

2 Way 0° Power Divider
5 - 2150 MHz

Features
- 2 way 0 Degree
- Surface Mount
- Available on Tape and Reel
- 260°C Reflow Compatible
- RoHS* Compliant and Pb free

Description
The MAPD-011007 is a 2 way 0 degree power divider in a surface mount package.
Ideally suited for all CATV Broadband and FTTx applications.

Functional Schematic

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>External 0.5 pF Capacitor</td>
</tr>
<tr>
<td>3</td>
<td>Output 2</td>
</tr>
<tr>
<td>4</td>
<td>Output 1</td>
</tr>
<tr>
<td>5</td>
<td>External 0.5 pF Capacitor</td>
</tr>
<tr>
<td>6</td>
<td>Input</td>
</tr>
</tbody>
</table>

3. MACOM recommends connecting unused package pins to ground.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPD-011007</td>
<td>bulk</td>
</tr>
<tr>
<td>MAPD-011007-TB</td>
<td>Sample Board</td>
</tr>
</tbody>
</table>

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input RF Power*</td>
<td>0.5 W</td>
</tr>
<tr>
<td>DC Current</td>
<td>500 mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at +25°C only.

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.
## 2 Way 0° Power Divider
5 - 2150 MHz

### Electrical Specifications:
Freq. = 5 - 3250 MHz, $T_A = 25^\circ$C, $Z_0 = 75$ Ω, $P_{IN} = 0$ dBm

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance</td>
<td>—</td>
<td>Ω</td>
<td>—</td>
<td>75</td>
<td>—</td>
</tr>
<tr>
<td>Power Split</td>
<td>—</td>
<td>dB</td>
<td>—</td>
<td>3</td>
<td>—</td>
</tr>
</tbody>
</table>
| Insertion Loss (pin 6 - pin 4) | 5 - 1002 MHz  
1003 - 1218 MHz  
1218 - 1600 MHz  
1600 - 2150 MHz       | dB    | —    | 0.3  | 0.7  |
| Insertion Loss (pin 6 - pin 3) | 5 - 1002 MHz  
1003 - 1218 MHz  
1218 - 1600 MHz  
1600 - 2150 MHz       | dB    | —    | 0.6  | 1.0  |
| Amplitude Balance          | 5 - 1002 MHz  
1003 - 1218 MHz  
1218 - 1600 MHz  
1600 - 2150 MHz       | dB    | —    | 0.3  | 0.5  |
| Phase Balance              | 5 - 1002 MHz  
1003 - 1600 MHz  
1600 - 2150 MHz       | degree | —    | 0.8  | 4.0  |
| Input Return Loss (pin 6)  | 5 - 1002 MHz  
1003 - 1600 MHz  
1600 - 2150 MHz       | dB    | 20   | 39   | —    |
| Output Return Loss (pin 3) | 5 - 1002 MHz  
1003 - 1600 MHz  
1600 - 2150 MHz       | dB    | 17   | 28   | —    |
| Output Return Loss (pin 4) | 5 - 1002 MHz  
1003 - 1600 MHz  
1600 - 2150 MHz       | dB    | 20   | 40   | —    |
| Isolation (pin 4 - pin 3)  | 5 - 10 MHz  
10 - 65 MHz  
66 - 870 MHz  
871 - 1002 MHz  
1003 - 1600 MHz  
1600 - 2150 MHz       | dB    | 24   | 30   | —    |
Typical Performance Curves: \( P_{IN} = 0 \text{ dBm}, T_A = 25^\circ\text{C}, Z_0 = 75 \Omega \)

7. Temperature plots available on request
Typical Performance Curves: $P_{IN} = 0$ dBm, $T_A = 25°C$, $Z_0 = 75$ Ω

7. Temperature plots available on request
2 Way 0° Power Divider
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Recommended PCB Footprint

Outline Drawing\textsuperscript{8,9,10,11}

Application Schematic

Carrier Tape Orientation

Tape & Reel Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qty per reel</td>
<td>-</td>
<td>2000</td>
</tr>
<tr>
<td>Reel Size</td>
<td>mm</td>
<td>330</td>
</tr>
<tr>
<td>Tape Width</td>
<td>mm</td>
<td>12.0</td>
</tr>
<tr>
<td>Pitch</td>
<td>mm</td>
<td>8.0</td>
</tr>
<tr>
<td>Orientation</td>
<td>-</td>
<td>F18</td>
</tr>
</tbody>
</table>

Reference Application Note ANI-019 for orientation

8. Dimensions in mm.
9. Tolerance: ±0.2mm unless otherwise noted.
10. Model number and lot code printed on reel.
11. Plating finish: ENIG on both sides, 0.05 to 0.1 µm gold over 3 to 6 µm nickel

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