MAPD-011026

3-Way 0° Power Divider
5 - 300 MHz

Features
- Surface Mount
- 3 way 0 degree
- 260°C Reflow Compatible
- RoHS Compliant, lead free
- Available on Tape and Reel

Description
The MAPD-011026 is a 3 Way 0° power divider in a low cost, surface mount package.

Ideally suited for high volume CATV applications.

Functional Schematic

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPD-011026</td>
<td>500 pc reel</td>
</tr>
<tr>
<td>MAPD-011026-TB</td>
<td>Sample Test Board</td>
</tr>
</tbody>
</table>

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Pin Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Output Port 1</td>
</tr>
<tr>
<td>2,3,6,7</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>Output Port 2</td>
</tr>
<tr>
<td>5</td>
<td>Output Port 3</td>
</tr>
<tr>
<td>8</td>
<td>Input</td>
</tr>
</tbody>
</table>

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Electrical Specifications: \( T_A = 25^\circ C, \ Z_0 = 75 \, \Omega, \ P_{in} = 0 \, \text{dBm} \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
</table>
| Insertion Loss (Ref value: 4.77 dB) | 5 - 204 MHz
204 - 300 MHz | dB   | -      | 5.1    | 5.2    | 5.3    |
| Isolation                 | 5 - 200 MHz
200 - 300 MHz | dB   | 25, 22 | 27, 23 | —      |
| Amplitude Balance         | 5 - 204 MHz
204 - 300 MHz | dB   | —      | 0.04, 0.1 | 0.1 | 0.2 |
| Phase Balance              | 5 - 204 MHz
204 - 300 MHz | deg. | —      | 0.35, 0.65 | 0.9 | 1.5 |
| Input Return Loss         | 5 - 204 MHz
204 - 300 MHz | dB   | 31, 26 | 34, 30 | —      |
| Output Return Loss        | 5 - 204 MHz
204 - 300 MHz | dB   | 23, 20 | 26, 23 | —      |

Absolute Maximum Ratings\(^4,5\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Input 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>

Handling Procedures
Please observe the following precautions to avoid damage:

Static Sensitivity
These electronic devices 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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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. Full temperature plots available on request.
Typical Performance Curves

- **Insertion loss 3 (pin8-5) (ref value:-4.77dB)**
  - Frequency (MHz) vs. Insertion loss in dB

- **Input return loss (pin8)**
  - Frequency (MHz) vs. Return loss in dB

- **Amplitude Balance (pin4-5)**
  - Frequency (MHz) vs. Amplitude Balance in dB

- **Phase Balance (pin1-5)**
  - Frequency (MHz) vs. Phase Balance in Degrees

- **Output return loss 3 (pin5)**
  - Frequency (MHz) vs. Return loss in dB

- **Isolation (pin4-5)**
  - Frequency (MHz) vs. Isolation in dB

For further information and support please visit: [https://www.macom.com/support](https://www.macom.com/support)
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Recommended PCB Layout

Outline Drawing

Tape & Reel Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ao</td>
<td>10.26 mm +/-0.1 mm</td>
</tr>
<tr>
<td>Bo</td>
<td>13.46 mm +/-0.1 mm</td>
</tr>
<tr>
<td>Ko</td>
<td>6.10 mm +/-0.1 mm</td>
</tr>
<tr>
<td>W</td>
<td>24.00 mm +/-0.3 mm</td>
</tr>
<tr>
<td>P1</td>
<td>16.00 mm +/-0.1 mm</td>
</tr>
<tr>
<td>Orientation</td>
<td>F2</td>
</tr>
</tbody>
</table>

Reference Application Note ANI-019 for orientation

NOTES:
1. Dimensions in mm.
2. Tolerance: ±0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating: ENIG.
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