MAPD-010274-C209C0

2 Way 0° Power Divider
5 to 1218 MHz

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

Description
M/A-COM Technology Solutions MAPD-010274-C209C0 is a 2 way 0 degree RF power divider in a low cost, surface mount package. Ideally suited for high volume CATV/VSAT applications.

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 0.5pF Capacitor</td>
</tr>
<tr>
<td>3</td>
<td>Output Port 2</td>
</tr>
<tr>
<td>4</td>
<td>Output Port 1</td>
</tr>
<tr>
<td>5</td>
<td>External 0.5pF Capacitor</td>
</tr>
<tr>
<td>6</td>
<td>Input</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPD-010274-C209C0</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MAPD-010274-C209TB</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>

For further information and support please visit:
https://www.macom.com/support

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.
## Electrical Specifications

- $T_A = 25°C$, $0$dBm, $Z_0 = 75Ω$, $P_{in} = 0$dBm

### Insertion Loss 1
- **(Pin6-Pin4)**
  - 5 - 500 MHz: dB Min = 0.15, Typ = 0.3, Max = 0.6
  - 500 - 1000 MHz: dB Min = 0.25, Typ = 0.7, Max = 1.0
  - 1000 - 1218 MHz: dB Min = 0.65, Typ = 0.9, Max = 1.5

### Insertion Loss 2
- **(Pin6-Pin3)**
  - 5 - 500 MHz: dB Min = 0.15, Typ = 0.2, Max = 0.4
  - 500 - 1000 MHz: dB Min = 0.25, Typ = 0.5, Max = 0.7
  - 1000 - 1218 MHz: dB Min = 0.65, Typ = 1.1, Max = 1.5

### Amplitude Balance
- 5 - 500 MHz: dB Min = 0.15, Typ = 0.2, Max = 0.4
- 500 - 1000 MHz: dB Min = 0.25, Typ = 0.5, Max = 0.7
- 1000 - 1218 MHz: dB Min = 0.65, Typ = 1.1, Max = 1.5

### Phase Balance
- 5 - 500 MHz: ° Min = 0.25, Typ = 0.5, Max = ±2
- 500 - 1000 MHz: ° Min = 0.5, Typ = 0.8, Max = ±3
- 1000 - 1218 MHz: ° Min = 1.0, Typ = 1.5, Max = ±5

### Input Return Loss
- 5 - 500 MHz: dB Min = 20, Typ = 40, Max = -
- 500 - 1000 MHz: dB Min = 19, Typ = 30, Max = -
- 1000 - 1218 MHz: dB Min = 15, Typ = 14, Max = -

### Output Return Loss 1
- **(Pin1-Pin4)**
  - 5 - 500 MHz: dB Min = 20, Typ = 29, Max = -
  - 500 - 1000 MHz: dB Min = 18, Typ = 33, Max = -
  - 1000 - 1218 MHz: dB Min = 15, Typ = 19, Max = -

### Output Return Loss 2
- **(Pin2-Pin3)**
  - 5 - 500 MHz: dB Min = 20, Typ = 33, Max = -
  - 500 - 1000 MHz: dB Min = 16, Typ = 21, Max = -
  - 1000 - 1218 MHz: dB Min = 13, Typ = 16, Max = -

### Isolation (between outputs)
- 5 - 500 MHz: dB Min = 20, Typ = 24, Max = -
- 500 - 1000 MHz: dB Min = 16, Typ = 20, Max = -
- 1000 - 1218 MHz: dB Min = 15, Typ = 18, Max = -

## Recommended Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input power</td>
<td>1W</td>
</tr>
<tr>
<td>Internal Load Dissipation</td>
<td>0.125W</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55°C to +100°C</td>
</tr>
</tbody>
</table>

*Full temperature plots are available on request*
2 Way 0° Power Divider
5 to 1218 MHz

PCB Layout

Application Schematic

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

For further information and support please visit:
https://www.macom.com/support
Electrical Specifications: $T_A = 25^\circ C$, $0\text{dBm}$, $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$
MAPD-010274-C209C0

2 Way 0° Power Divider
5 to 1218 MHz

Component dimensions:

Dimensions in mm Tolerance: .xx ± .1, .xxx ± .010, unless otherwise stated

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ao</td>
<td>4.60mm +/- 0.1mm</td>
</tr>
<tr>
<td>Bo</td>
<td>4.60mm +/- 0.1mm</td>
</tr>
<tr>
<td>Ko</td>
<td>3.30mm +/- 0.1mm</td>
</tr>
<tr>
<td>W</td>
<td>12.00mm +/- 0.3mm</td>
</tr>
<tr>
<td>P1</td>
<td>8.00mm +/- 0.1mm</td>
</tr>
</tbody>
</table>

Carrier Tape Orientation
2 Way 0° Power Divider
5 to 1218 MHz

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

For further information and support please visit:
https://www.macom.com/support