Features
- 1:2 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Can Be Used on 50 Ω & 75 Ω Systems
- Suitable for all CATV, Broadband and FTTx Applications
- RoHS Compliant & Lead Free
- 260°C Reflow Compatible
- Available on Tape & Reel

Description
The MABA-010449-CA2A40 is a 1:2 transmission line transformer in a surface mount package.

Ideally suited for all CATV Broadband and FTTx applications.

Functional Schematic

Pin Configuration

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>No Connection (Ground)</td>
</tr>
<tr>
<td>3</td>
<td>Secondary Dot</td>
</tr>
<tr>
<td>4</td>
<td>Primary Dot</td>
</tr>
<tr>
<td>5</td>
<td>Primary &amp; Secondary</td>
</tr>
</tbody>
</table>

Electrical Specifications: Freq. = 5 - 1000 MHz, $T_A = 25^\circ$C, $Z_0 = 75 \Omega$, $P_{IN} = 0$ dBm

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency (MHz)</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance Ratio</td>
<td>—</td>
<td>dB</td>
<td>—</td>
<td>1:2</td>
<td>—</td>
</tr>
<tr>
<td>Insertion Loss (pin 4 - 3)</td>
<td>5 - 600</td>
<td>dB</td>
<td>0.6</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>600 - 1000</td>
<td></td>
<td>1.1</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Input Return Loss (pin 4)</td>
<td>5 - 200</td>
<td>dB</td>
<td>20</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 - 500</td>
<td></td>
<td>12</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500 - 1000</td>
<td></td>
<td>8</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABA-010449-CA2A40</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MABA-010449-CA2ATB</td>
<td>customer evaluation board</td>
</tr>
</tbody>
</table>

Recommended Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>250 mW</td>
</tr>
<tr>
<td>DC Current</td>
<td>200 mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55°C to +125°C</td>
</tr>
</tbody>
</table>
Typical Performance Curves: $T_A = 25^\circ C$, $Z_0 = 75 \, \Omega$, $P_{IN} = 0 \, \text{dBm}$

**Insertion Loss: (Pin 4 to 3)**

**Return Loss: (pin 4)**

---

MACOM 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](http://www.macom.com) for additional data sheets and product information.

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

1:2 Transmission Line Transformer
5 - 1000 MHz

Rev. V2

Application Circuit

PCB Layout

Outline Drawing

Tape & Reel Information

Parameter | Units | Value
---|---|---
Qty per reel | - | 2000
Reel Size | mm | 330
Tape Width | mm | 12.0
Pitch | mm | 8.0
Ao | mm | 4.5
Bo | mm | 4.5
Ko | mm | 2.73
Orientation | - | F31

Reference Application Note ANI-019 for orientation

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

MACOM-010449-CA2A40