MABA-010449-CA2A40

1:2 Transmission Line Transformer
5 - 1000 MHz

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.

Electrical Specifications: Freq. = 5 - 1000 MHz, $T_A = 25^\circ$C, $Z_0 = 75$ Ω, $P_{IN} = 0$ 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>—</td>
<td>0.6</td>
<td>0.8</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>11</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>
1:2 Transmission Line Transformer
5 - 1000 MHz

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)**

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)
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 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
MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM 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.