1:1 Transmission Line Transformer
5 - 1200 MHz

Features
- Surface Mount Package
- 1:1 Impedance
- RoHS Compliant, Lead Free
- Available on Tape and Reel

Description
The MABA-009691-CT1881 is a 1:1 RF transmission line transformer in a surface mount package. Ideally suited for high volume CATV/Broadband applications.

Schematic

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Secondary Dot</td>
</tr>
<tr>
<td>2</td>
<td>Not connected (ground)</td>
</tr>
<tr>
<td>3</td>
<td>Secondary</td>
</tr>
<tr>
<td>4</td>
<td>Primary (ground)</td>
</tr>
<tr>
<td>5</td>
<td>Primary dot</td>
</tr>
</tbody>
</table>

Electrical Specifications: Freq. = 5 - 1200 MHz, $T_A = 25^\circ C$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss 1</td>
<td>—</td>
<td>dB</td>
<td>0.2</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>Amplitude Unbalance (nom. 0 dB)</td>
<td>—</td>
<td>dB</td>
<td>0.7</td>
<td>±0.9</td>
<td>±0.9</td>
</tr>
<tr>
<td>Phase Unbalance (nom. 180°)</td>
<td>5 - 200 MHz</td>
<td>°</td>
<td>3</td>
<td>7</td>
<td>±4</td>
</tr>
<tr>
<td></td>
<td>200 - 1200 MHz</td>
<td></td>
<td></td>
<td>±9</td>
<td></td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>5 - 200 MHz</td>
<td>dB</td>
<td>20</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 - 400 MHz</td>
<td></td>
<td>18</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400 - 1000 MHz</td>
<td></td>
<td>16</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000 - 1200 MHz</td>
<td></td>
<td>14</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABA-009691-CT1881</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MABA-009691-CT1881</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Input Power</td>
<td>24 dBm, 250 mW</td>
</tr>
<tr>
<td>DC Current</td>
<td>30 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 +100°C</td>
</tr>
</tbody>
</table>
1:1 Transmission Line Transformer
5 - 1200 MHz

Typical Performance: $T_A = 25^\circ C$, $Z_0 = 75 \, \Omega$, $P_{IN} = 0 \, \text{dBm}$

**Insertion Loss 1:** (Pin 6 to 1, ref $-3.0 \, \text{dB}$)

**Insertion Loss 2:** (Pin 6 to 3, ref $-3.0 \, \text{dB}$)

**Amplitude Balance**

**Phase Balance**

**Return Loss:** Input Pin 6
Application Circuit

Case Style SM-136

Dimensions in inches [mm] Tolerance: .xx ± 0.02, .xxx ± 0.010, unless otherwise stated.
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