Features
- Surface mount
- 1:1 Impedance ratio
- Centre tap on Secondary
- Suitable for DOCSIS 3.0
- 260°C reflow compatible
- RoHS* compliant
- Available on tape and reel.

Description
M/A-COM Technology Solutions MABA-009594-CF18A0 is a 1:1 RF Flux coupled transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary Dot</td>
</tr>
<tr>
<td>3</td>
<td>Primary</td>
</tr>
<tr>
<td>4</td>
<td>Secondary</td>
</tr>
<tr>
<td>5</td>
<td>Secondary Centre Tap</td>
</tr>
<tr>
<td>6</td>
<td>Secondary dot</td>
</tr>
</tbody>
</table>

Component Dimensions

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

Transformer, 1:1 Flux Coupled Transformer
5 to 200 MHz

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

<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</td>
<td>5 - 60 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>60 - 150 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.4</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>150 - 200 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Amplitude Unbalance</td>
<td>5 - 60 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.0</td>
<td>±0.1</td>
</tr>
<tr>
<td>(Nominal 0dB)</td>
<td>60 - 200 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.2</td>
<td>±0.4</td>
</tr>
<tr>
<td>Phase Unbalance</td>
<td>5 - 60 MHz</td>
<td>°</td>
<td>-</td>
<td>0.1</td>
<td>±2.0</td>
</tr>
<tr>
<td>(Nominal 180°)</td>
<td>60 - 200 MHz</td>
<td>°</td>
<td>-</td>
<td>0.3</td>
<td>±4.0</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>5 - 60 MHz</td>
<td>dB</td>
<td>22</td>
<td>31</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>60 - 200 MHz</td>
<td>dB</td>
<td>14</td>
<td>17</td>
<td>-</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>+28dBm (631mW)</td>
</tr>
<tr>
<td>DC current (tested at 5V)</td>
<td>600mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +100°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55°C to +100°C</td>
</tr>
</tbody>
</table>

Application Circuit

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Transformer, 1:1 Flux Coupled Transformer
5 to 200 MHz

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

- **Insertion Loss 1: (Pin 1 to 6)**

- **Insertion Loss 2: (Pin 1 to 4)**

- **Amplitude Balance**

- **Phase Balance**

- **Return Loss: Input**

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Tape & Reel Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ao</td>
<td>5.60mm +/- 0.1mm</td>
</tr>
<tr>
<td>Bo</td>
<td>4.50mm +/- 0.1mm</td>
</tr>
<tr>
<td>Ko</td>
<td>4.00mm +/- 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>

Ordering Information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABA-009594-CF18A0</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MABA-009594-CF18TB</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>
Transformer, 1:1 Flux Coupled Transformer
5 to 200 MHz

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