MABACT0012

1:1 Flux Coupled Transformer
3 - 200 MHz

Features
- Surface Mount
- 1:1 Impedance
- CT on Secondary
- Available on tape & reel
- RoHS* Compliant
- Pb free

Description
MABACT0012 is a 1:1 RF flux coupled transformer in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications.

Functional 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>Secondary CT</td>
</tr>
<tr>
<td>3</td>
<td>Secondary</td>
</tr>
<tr>
<td>4</td>
<td>Primary</td>
</tr>
<tr>
<td>5</td>
<td>Primary</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABACT0012</td>
<td>2000 piece reel</td>
</tr>
</tbody>
</table>

1:1 Flux Coupled Transformer
3 - 200 MHz

Electrical Specifications: Freq. = 3 - 200 MHz, $T_A = +25^\circ C$, $Z_0 = 75 \Omega$

<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>3 - 200 MHz</td>
<td>dB</td>
<td>—</td>
<td>0.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Amplitude Unbalance</td>
<td>3 - 50 MHz</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>3 - 200 MHz</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>0.5</td>
</tr>
<tr>
<td>Phase Unbalance</td>
<td>3 - 50 MHz</td>
<td>°</td>
<td>—</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>50 - 200 MHz</td>
<td>°</td>
<td>—</td>
<td>—</td>
<td>5</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>3 - 200 MHz</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>5 - 120 MHz</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>15</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>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>-40°C to +85°C</td>
</tr>
</tbody>
</table>

PCB Footprint

Outline Drawing
1:1 Flux Coupled Transformer
3 - 200 MHz

Typical Performance Curves: $T_A = +25^\circ C$, $Z_0 = 75 \, \Omega$

- **Insertion Loss Port**
  - Frequency (MHz) vs. dB
- **Phase Balance**
  - Frequency (MHz) vs. Degrees
- **Amplitude Unbalance**
  - Frequency (MHz) vs. dB
- **Input Return Loss**
  - Frequency (MHz) vs. dB
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