Transformer, 1:1 Transmission Line
5 MHz - 1200 MHz

Features

- Surface Mount
- 1:1 Impedance, with tertiary winding.
- Excellent amplitude and phase balance
- 260°C Reflow Compatible
- RoHS* Compliant

Electrical Specifications: $Z_0 = 50\Omega$, $T_A = 25^\circ C$, $P_{in} = 0$ dBm

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>MHz</td>
<td>5</td>
<td>1200</td>
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</tr>
<tr>
<td>Impedance</td>
<td>$\Omega$</td>
<td>50</td>
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<tr>
<td>Impedance Ratio</td>
<td></td>
<td>1:1</td>
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<tr>
<td>Insertion Loss</td>
<td>5 - 1000 MHz</td>
<td>dB</td>
<td>-0.6</td>
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</tr>
<tr>
<td></td>
<td>1000 - 1200 MHz</td>
<td>dB</td>
<td>-0.8</td>
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<td></td>
<td></td>
<td>0.6</td>
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<td></td>
<td>0.8</td>
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<td></td>
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<td>1.0</td>
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<td></td>
<td></td>
<td>1.1</td>
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<tr>
<td>Amplitude Balance</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>-0.8</td>
<td></td>
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</tr>
<tr>
<td>(Reference Level 0dB)</td>
<td>50 - 1200 MHz</td>
<td>dB</td>
<td>-0.5</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td>0.1</td>
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<td>0.8</td>
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<td></td>
<td>0.5</td>
<td></td>
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<tr>
<td>Phase Balance</td>
<td>5 - 50 MHz</td>
<td>°</td>
<td>-13.0</td>
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<tr>
<td>(Reference Level 180°)</td>
<td>50 - 1000 MHz</td>
<td>°</td>
<td>-4.5</td>
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<tr>
<td></td>
<td>1000 - 1000 MHz</td>
<td>°</td>
<td>-10.0</td>
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<td>3.0</td>
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<td></td>
<td>4.5</td>
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<td></td>
<td>13.0</td>
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<td>2.0</td>
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<td>3.0</td>
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<td></td>
<td></td>
<td></td>
<td>10.0</td>
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<tr>
<td>Input Return Loss</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>18</td>
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<tr>
<td></td>
<td>50 - 1200 MHz</td>
<td>dB</td>
<td>10</td>
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<td>13</td>
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Pin Configuration

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

Schematic
Transformer, 1:1 Transmission Line
5 MHz - 1200 MHz

Electrical Specifications: $Z_0 = 50\,\Omega$, $T_A = 25^\circ\text{C}$, $P_{\text{in}} = 0\,\text{dBm}$

**Insertion Loss 1 (through pin 4 to pin 3)**

**Insertion Loss 2 (coupled pin 4 to pin 1)**

**Amplitude Balance**

**Phase Balance**

**Return Loss: Input (pin4)**
Outline Drawing

1. Dimensions in mm.
2. Tolerance: ±0.2mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides

Recommended Footprint
### Transformer, 1:1 Transmission Line
5 MHz - 1200 MHz

#### Tape & Reel Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Qty per reel</td>
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<td>2000</td>
</tr>
<tr>
<td>Reel Size</td>
<td>mm</td>
<td>330</td>
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<tr>
<td>Tape Width</td>
<td>mm</td>
<td>12.00</td>
</tr>
<tr>
<td>Pitch</td>
<td>mm</td>
<td>8.00</td>
</tr>
<tr>
<td>Ao</td>
<td>mm</td>
<td>4.50</td>
</tr>
<tr>
<td>Bo</td>
<td>mm</td>
<td>4.50</td>
</tr>
<tr>
<td>Ko</td>
<td>mm</td>
<td>2.73</td>
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<tr>
<td>Orientation</td>
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<td>F31</td>
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Reference Application Note ANI-019 for orientation

#### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>MABACT0060</td>
<td>Tape &amp; Reel</td>
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</table>

#### Recommended Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>mW</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>DC Current</td>
<td>mA</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>°C</td>
<td>-40</td>
<td>+85</td>
</tr>
</tbody>
</table>

Temperature data available on request
Transformer, 1:1 Transmission Line
5 MHz - 1200 MHz

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