1:2 Step Up Flux Coupled Balun Transformer
3 - 300 MHz

**Features**
- 1:2 Impedance
- Surface Mount
- Available on Tape & Reel
- 260° Reflow Compatible
- RoHS Compliant and Pb Free

**Description**
MABA-009250-CT0068 is a RoHS compliant 1:2 RF transformer in a low cost, surface mount package. Typical applications include single to balanced mode conversion and impedance matching.

The MABA-009250-CT0068 is available in a SM-22 surface mount package and is designed to be utilized in both RoHS and standard reflow profiles. Parts are packaged in tape & reel.

**Functional Schematic**

**Pin Configuration**

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Secondary Dot</td>
<td>4</td>
<td>Primary</td>
</tr>
<tr>
<td>2</td>
<td>Centre Tap</td>
<td>5</td>
<td>Primary Dot</td>
</tr>
<tr>
<td>3</td>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Electrical Specifications:** Freq. = 3 - 300 MHz, $T_A = 25°C$, $Z_0 = 50$ Ω, $P_{IN} = 0$ dBm

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance Ratio</td>
<td>ratio</td>
<td>—</td>
<td>2:1</td>
<td>—</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>dB</td>
<td>—</td>
<td>0.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Amplitude Balance</td>
<td>dB</td>
<td>—</td>
<td>0.4</td>
<td>±1.2</td>
</tr>
<tr>
<td>Phase Balance</td>
<td>°</td>
<td>—</td>
<td>—</td>
<td>±2.0</td>
</tr>
</tbody>
</table>

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABA-009250-CT0068</td>
<td>Tape &amp; Reel</td>
</tr>
</tbody>
</table>

1. Reference Application Note M513 for reel size information.

**Absolute Maximum Ratings**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input RF Power</td>
<td>250 mW</td>
</tr>
<tr>
<td>DC Current</td>
<td>240 mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

2. Exceeding any one or combination of these limits may cause permanent damage to this device.
3. MACOM does not recommend sustained operation near these survivability limits.

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Typical Performance Curves

Insertion Loss

Amplitude Balance

Phase Balance

4. Full temperature plots available on request
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3 - 300 MHz

Application Schematic

Outline Drawing

Recommended Footprint

Tape & Reel Information

Carrier Tape Orientation

Parameter | Units | Value
--- | --- | ---
Qty per reel | - | 2000
Reel Size | mm | 330
Tape Width | mm | 12.00
Pitch | mm | 8.00
Ao | mm | 4.00
Bo | mm | 4.00
Ko | mm | 2.90
Orientation | - | F5

Reference Application Note ANI-019 for orientation

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