Features
- Surface Mount
- 1:4 Impedance Ratio
- CT on Secondary
- Available on Tape & Reel

Description
The MABAES0031 is a 1:4 RF flux coupled step-up transformer. This transformer is offered in a SM-138 surface mount package.

Ideally suited for high volume cellular and wireless applications. Typical applications include single to balanced mode conversion and impedance matching.

Electrical Specifications: Freq. = 1 - 650 MHz, $T_A = 25^\circ$C, $Z_0 = 50 \Omega$, $P_{in} = 0$ 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>Impedance Ratio</td>
<td>—</td>
<td>ratio</td>
<td>—</td>
<td>1.4</td>
<td>—</td>
</tr>
<tr>
<td>Insertion Loss ($f_L - f_U$)</td>
<td>10 - 200 MHz, 1 - 450 MHz</td>
<td>dB</td>
<td>0.7</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Amplitude Unbalance</td>
<td>10 - 200 MHz</td>
<td>dB</td>
<td>0.12</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Phase Unbalance</td>
<td>10 - 200 MHz, 1 - 500 MHz, 500 - 650 MHz</td>
<td>°</td>
<td>1</td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABAES0031</td>
<td>2000 piece reel</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>200 mA</td>
</tr>
<tr>
<td>Operating &amp; Storage Temperature</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

1. Operation of this device above any one of these parameters may cause permanent damage.

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For further information and support please visit: [https://www.macom.com/support](https://www.macom.com/support)
Typical Performance Curves @ +25°C

**Insertion Loss (Primary to Secondary Dot)**

![Insertion Loss (Primary to Secondary Dot)](image)

**Insertion Loss (Primary to Secondary)**

![Insertion Loss (Primary to Secondary)](image)

**Amplitude Unbalance**

![Amplitude Unbalance](image)

**Phase Unbalance**

![Phase Unbalance](image)

All measurements performed on Hewlett Packard 8753D Network Analyzer (201 sample points, linear scale) in a 50 Ω coplanar waveguide environment.
1:4 E-Series, RF Flux Coupled Transformer
1 - 650 MHz

Lead-Free Outline Drawing (SM-138)

Dimensions in mm.
Tolerance: ±0.2 mm unless otherwise noted.
Model number and lot code are printed on the reel.
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