Balun Transformers
50Ω to 25Ω Balanced

Description
The 3A525 is a low profile balanced to unbalanced transformer in an easy
to use surface mount package covering Japanese PDC, DCS and PCS
receive push-pull amplifier and mixer applications. The 3A525 has an
unbalanced impedance of 50Ω and a balanced port impedances of 25Ω to
ground with 50Ω balance between outputs. This eases the matching of the
push-pull amplifier’s power transistors which have low impedance levels.
The output ports have equal amplitude (-3 dB) with 180° phase differential.
The 3A525 is available on tape and reel for pick and place high volume
manufacturing.

ELECTRICAL SPECIFICATIONS***

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Unbalanced Port Impedance</th>
<th>Balanced Port Impedance*</th>
<th>Return Loss</th>
<th>Insertion Loss**</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHz</td>
<td>Ohms</td>
<td>Ohms</td>
<td>dB min</td>
<td>dB max</td>
</tr>
<tr>
<td>1.5 – 1.9</td>
<td>50</td>
<td>25</td>
<td>15</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Amplitude Balance | Phase Balance | Power Handling | ΘJC | Operating Temp.
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>dB max</td>
<td>Degrees max</td>
<td>Watts</td>
<td>ºC / Watt</td>
<td>ºC</td>
</tr>
<tr>
<td>0.40</td>
<td>180± 5.0</td>
<td>150</td>
<td>7.2</td>
<td>-55 to +85</td>
</tr>
</tbody>
</table>

Features:
- 1.5 – 1.9 GHz
- 180° Transformer
- 50 Ohm to 2 x 25 Ohm
- Low Insertion Loss
- High Power
- Input to Output DC Isolation
- Surface Mountable
- Tape & Reel
- Convenient Package

***Specification based on performance of unit properly installed on microstrip printed circuit
boards with 50 Ω nominal impedance. Specifications subject to change without notice.
**Insertion Loss excludes reflected power. * 25Ω reference to ground

Outline Drawing

Dimensions are in Inches [Millimeters]
3A525 Rev A Mechanical Outline
Typical Performance: 1200 MHz. to 2200 MHz.

### Model 3A525

**Amplitude Balance 3A525**

![Graph](image1)

**Return Loss 3A525**

![Graph](image2)

**Insertion Loss 3A525**

![Graph](image3)

**Phase Balance 3A525**

![Graph](image4)

**Pin Configuration**

- Pin 1
- Pin 2
- Pin 3
- Unbalanced Port
- Balanced Port Terminals

**Mounting Configuration**

- To ensure proper electrical and thermal performance, there must be a ground plane with 100% solder connection underneath the part.

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Available on Tape and Reel For Pick and Place Manufacturing.