**Notes**

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits’ website at www.minicircuits.com/MCLStore/terms.jsp

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**RF Transformer**

50Ω  3300 to 4000 MHz  1:1 Ratio

**Features**

- wideband, 3300 to 4000 MHz
- low phase unbalance, 4 deg. and amplitude unbalance, 0.4 dB typ.
- miniature size, 0.079”x0.049”x0.033”
- LTCC construction
- low cost
- aqueous washable

**Applications**

- WiMAX
- satellite
- radar

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**Electrical Specifications**

<table>
<thead>
<tr>
<th>Ω RATIO</th>
<th>FREQUENCY (MHz)</th>
<th>INSERTION LOSs (dB)</th>
<th>PHASE UNBALANCE AT SECONDARY* (Deg.)</th>
<th>AMPLITUDE UNBALANCE (dB)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3300-4000</td>
<td>1.0</td>
<td>4</td>
<td>0.4</td>
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</tbody>
</table>

*Insertion Loss is referenced to mid-band loss, 0.8 dB. Reference Demo Board TB-419+

**Typical Performance Data at 25°C**

**Demo Board MCL P/N: TB-419+**

Suggested PCB Layout

**Outline Drawing**

**Outline Dimensions**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tr>
<td>0.79</td>
<td>0.049</td>
<td>0.031</td>
<td>0.014</td>
<td>0.012</td>
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<tr>
<td>2.01</td>
<td>1.24</td>
<td>0.84</td>
<td>0.36</td>
<td>0.30</td>
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<tr>
<td>0.026</td>
<td>0.014</td>
<td>0.039</td>
<td>0.110</td>
<td>0.066</td>
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<tr>
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<td>2.80</td>
<td>0.026</td>
<td>0.36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pad Connections**

- PRIMARY DOT (Unbalanced Port) 1
- PRIMARY (GND) 2
- SECONDARY DOT (Balanced) 4
- SECONDARY (Balanced) 3
- NO CONNECTION 6
- NOT USED (GND Externally) 5

Pads 2,3,4 are DC-connected internally

**Maximum Ratings**

- Operating Temperature: -40°C to 85°C
- Storage Temperature: -55°C to 100°C
- Input RF Power: 3W

**Notes**

- Derate linearly to 2W at 85°C Permanent damage may occur if any of these limits are exceeded.

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**FAQs**

- What is the maximum power handling capacity of the RF Transformer?
  - The maximum power handling capacity is 3W.

- What are the dimensions of the RF Transformer?
  - The dimensions are 0.079”x0.049”x0.033”.

- What is the operating temperature range?
  - The operating temperature range is -40°C to 85°C.

- What is the insertion loss at mid-band?
  - The insertion loss is 0.8 dB.

- How many pads are DC-connected internally?
  - Pads 2,3,4 are DC-connected internally.

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**For More Information**

Visit Mini-Circuits’ website at www.minicircuits.com for RoHS Compliance methodologies and qualifications.