**MiniRF**

**RFXF3593**

1:1.5 SMT TRANSFORMER

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**Features**

- Frequency Range: 0.5MHz to 550MHz
- Low Cost and RoHS Compliant
- Industry Standard SMT package
- Available in Tape-and-Reel
- 50Ω Characteristic Impedance
- Flux Coupled

**Applications**

- Broadband/CATV
- Wireless

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**Product Description**

The RFXF3593 transformer is designed for applications that require very small, low cost, and highly reliable surface mount components. Applications may be found in broadband, wireless, and other communications systems. These units are built Lead-Free and RoHS compliant. S-Parameters are available on request.

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**Parameter** | **Specification** | **Unit** | **Condition** |
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Overall | | | Typical values represent Mid-Band performance at 25°C |
Frequency Range | .5 | 550 | MHz |
Insertion Loss < 1dB | 2 | 200 | MHz |
Insertion Loss < 1.5dB | .5 | 550 | MHz |
Amplitude Balance | 0.2 | 1.0 | dB |
Phase Balance | 2 | 5 | * Nominal Phase Difference is 180° |
Input Return Loss | 10 | 22 | dB |
Impedance Ratio, P:S | 1:1.5 | | |
Type - Flux Coupled | Unbalance to Balanced |

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**Absolute Maximum Ratings**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Power</td>
<td>2</td>
<td>W</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-45 to +85</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55 to +100</td>
<td>°C</td>
</tr>
</tbody>
</table>

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**Caution!** ESD sensitive device.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

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RoHS (Restriction of Hazardous Substances) Compliant per EU Directive 2002/95/EC.
Typical Data

Input Return Loss

$\text{dB}$ $\text{Frequency (MHz)}$

-30 -25 -20 -15 -10 -5 0

$\text{Frequency (MHz)}$

0 50 100 150 200 250 300 350 400 450 500 550

Insertion Loss

$\text{dB}$ $\text{Frequency (MHz)}$

-0.5 -1.0 -1.5 -2.0 -2.5 -3.0

$\text{Frequency (MHz)}$

0 50 100 150 200 250 300 350 400 450 500 550

Amplitude Balance

$\text{dB}$ $\text{Frequency (MHz)}$

-2.0 -1.5 -1.0 -0.5 0.0 0.5 1.0 1.5 2.0

$\text{Frequency (MHz)}$

0 50 100 150 200 250 300 350 400 450 500 550

Phase Balance

$\text{Deg}$ $\text{Frequency (MHz)}$

175 176 177 178 179 180 181 182 183 184 185

$\text{Frequency (MHz)}$

0 50 100 150 200 250 300 350 400 450 500 550
### Pin Names and Description

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRIMARY DOT</td>
<td>Input (Port 1)</td>
</tr>
<tr>
<td>2</td>
<td>SECONDARY CT</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>PRIMARY</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>SECONDARY</td>
<td>Output (Port 3)</td>
</tr>
<tr>
<td>5</td>
<td>SECONDARY DOT</td>
<td>Output (Port 2)</td>
</tr>
</tbody>
</table>

### Package Drawing - S20

Dimensions in inches (millimeters)