TP-103

RF Pulse Transformer,  
500 KHz - 1 GHz

**Features**
- 50 Ohms Unbalanced/200 Ohms Balanced
- Fast Rise Time: 0.18 nS
- Low Insertion Loss: 0.4 dB Typical
- MIL-STD-202 Screening Available

**Description**
The transformer coupled balun can provide a wide frequency range. DC isolation from primary coil to secondary coil is also a feature of this device.

**Schematic/Pin Configuration**

```
50 Ohms Unbalanced
\[\overset{2}{\overset{3}{\overset{5}{\overset{4}{\overset{6}{6}}}}}
\]
200 Ohms Balanced
```

Pins 1, 3, 5 are grounded to case

**FP-1**

**Electrical Specifications:** \( T_A = -55^\circ C \) to \(+85^\circ C\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Frequency Range</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance</td>
<td>Input - 50 Ohms Unbalanced</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Output - 200 Ohms Balanced</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Insertion Loss</td>
<td></td>
<td>10 - 50 MHz</td>
<td>dB</td>
<td></td>
<td>0.6</td>
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</tr>
<tr>
<td>VSWR</td>
<td></td>
<td>2 - 500 MHz</td>
<td>Ratio</td>
<td></td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>500 KHz - 1 GHz</td>
<td>Ratio</td>
<td></td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Input Power</td>
<td></td>
<td>500 KHz - 1 MHz</td>
<td>Watts</td>
<td></td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 MHz - 5 MHz</td>
<td>Watts</td>
<td></td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 MHz - 1 GHz</td>
<td>Watts</td>
<td></td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Rise Time</td>
<td></td>
<td>10 - 90%</td>
<td>nS</td>
<td></td>
<td>0.18</td>
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</tr>
<tr>
<td>Droop (10%)</td>
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<td>-</td>
<td>nS</td>
<td></td>
<td>160</td>
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Typical Performance Curves

**Insertion Loss**

![Insertion Loss Graph]

**VSWR**

![VSWR Graph]

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
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<tbody>
<tr>
<td>TP-103 PIN</td>
<td>FP-1</td>
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</tbody>
</table>

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