Surface Mount Wideband RF Transformers

- Provides wide band pass performance in a small SMT package.
- 1812 size ferrite body with a ceramic base.
- 50 V isolation, 1/4 Watt RF input power

Core material: Ferrite

Terminations: RoHS compliant gold over nickel over moly-manganese. Other terminations available at additional cost.

Weight: 131 – 152 mg

Ambient temperature: –40°C to +85°C with Irms current

Storage temperature: Component: –40°C to +85°C. Tape and reel packaging: –40°C to +80°C

Resistance to soldering heat: Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF): 9.25 per billion hours / 1.081E+08 hours, calculated per Telcordia SR-332

Packaging: 600/7″ reel; 2200/13″ reel. Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 3.7 mm pocket depth

PCB washing: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCBt_Washing.pdf.

1:1 Transformers

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>Test frequency (MHz)</th>
<th>Imp. ratio pri : sec</th>
<th>DCR max (Ohms)</th>
<th>Irms (mA)</th>
<th>Isolation (Vrms)</th>
<th>Insertion loss (dB)</th>
<th>Bandwidth (MHz)</th>
<th>Color dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1812WBT-1L_</td>
<td>14</td>
<td>10</td>
<td>1:1</td>
<td>4.8</td>
<td>200</td>
<td>50</td>
<td>&lt;1</td>
<td>0.340</td>
<td>Yellow</td>
</tr>
<tr>
<td>1812WBT-2L_</td>
<td>5.3</td>
<td>10</td>
<td>1:1</td>
<td>1.8</td>
<td>400</td>
<td>50</td>
<td>&lt;1</td>
<td>0.800-60</td>
<td>Green</td>
</tr>
<tr>
<td>1812WBT-3L_</td>
<td>1.25</td>
<td>50</td>
<td>1:1</td>
<td>0.27</td>
<td>700</td>
<td>50</td>
<td>&lt;1</td>
<td>1.1 – 480</td>
<td>White</td>
</tr>
<tr>
<td>1812WBT-4L_</td>
<td>0.090</td>
<td>50</td>
<td>1:1</td>
<td>0.03</td>
<td>700</td>
<td>50</td>
<td>&lt;1.5</td>
<td>48 – 645</td>
<td>Orange</td>
</tr>
</tbody>
</table>

1.5:1 Transformers

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>Test freq. (MHz)</th>
<th>Imp. ratio pri : sec</th>
<th>DCR max (Ω)</th>
<th>Irms (mA)</th>
<th>Isolation (Vrms)</th>
<th>Insertion loss (dB)</th>
<th>Bandwidth (MHz)</th>
<th>Color dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1812WBT1.5-1L_</td>
<td>5.0</td>
<td>3.3</td>
<td>10</td>
<td>1.05</td>
<td>0.87</td>
<td>400</td>
<td>&lt;0.5</td>
<td>1.3 – 100</td>
<td>Red</td>
</tr>
<tr>
<td>1812WBT1.5-2L_</td>
<td>2.5</td>
<td>1.6</td>
<td>10</td>
<td>0.74</td>
<td>0.58</td>
<td>500</td>
<td>&lt;0.5</td>
<td>2.75 – 135</td>
<td>Orange</td>
</tr>
<tr>
<td>1812WBT1.5-3L_</td>
<td>1.0</td>
<td>0.60</td>
<td>10</td>
<td>0.43</td>
<td>0.34</td>
<td>500</td>
<td>&lt;0.75</td>
<td>7.2 – 200</td>
<td>Yellow</td>
</tr>
<tr>
<td>1812WBT1.5-4L_</td>
<td>0.144</td>
<td>0.090</td>
<td>10</td>
<td>0.18</td>
<td>0.14</td>
<td>700</td>
<td>&lt;2.25</td>
<td>38 – 535</td>
<td>Green</td>
</tr>
</tbody>
</table>

2:1 Transformers

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>Test freq. (MHz)</th>
<th>Imp. ratio pri : sec</th>
<th>DCR max (Ω)</th>
<th>Irms (mA)</th>
<th>Isolation (Vrms)</th>
<th>Insertion loss (dB)</th>
<th>Bandwidth (MHz)</th>
<th>Color dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1812WBT2-1L_</td>
<td>13.80</td>
<td>6.90</td>
<td>10</td>
<td>4.6</td>
<td>3.2</td>
<td>200</td>
<td>&lt;1.5</td>
<td>0.800 – 23</td>
<td>Brown</td>
</tr>
<tr>
<td>1812WBT2-2L_</td>
<td>5.850</td>
<td>2.925</td>
<td>10</td>
<td>1.25</td>
<td>0.95</td>
<td>400</td>
<td>&lt;1.5</td>
<td>2.2 – 65</td>
<td>Red</td>
</tr>
<tr>
<td>1812WBT2-3L_</td>
<td>2.60</td>
<td>1.30</td>
<td>10</td>
<td>0.52</td>
<td>0.42</td>
<td>600</td>
<td>&lt;1.5</td>
<td>4 – 105</td>
<td>Orange</td>
</tr>
<tr>
<td>1812WBT2-4L_</td>
<td>0.910</td>
<td>0.455</td>
<td>50</td>
<td>0.27</td>
<td>0.23</td>
<td>700</td>
<td>&lt;1.5</td>
<td>11 – 200</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

1. When ordering, please specify termination and packaging codes:

   1812WBT1.5-4LC

   Termination: L = RoHS compliant gold over nickel over moly-manganese
   Special order: T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37)

   Packaging: C = 7″ machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
   B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.
   D = 13″ machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2200 parts per full reel).

2. Inductance is per winding

3. Electrical specifications at 25°C. Measurements are referenced to 50 Ohms.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Coilcraft

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Typical Frequency Attenuation
1:1 Transformers

Measured on a network analyzer (re: 50 Ohms)

Typical Frequency Attenuation
1.5:1 Transformers

Typical Frequency Attenuation
2:1 Transformers

Dimensions are in inches
Dimensions are in mm

Recommended Land Pattern

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