Mini Wideband Transformers – WBC

- Smallest wideband transformer: 4 mm square 3 mm high
- 300 Vrms interwinding isolation, 1/4 Watt RF input power
- 250 mA max current rating.
- AEC-Q200 Grade 3 qualified (–40°C to +85°C ambient)

Designer’s Kit C393 contains three of each part
Core material Ferrite
Terminations RoHS compliant tin-silver-copper over silver-platinum-glass frit. Other terminations available at additional cost.
Weight 68.0 – 88.8 mg
Ambient temperature –40°C to +85°C
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)
Packaging 750/7” reel; 2500/13” reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 2.9 mm pocket depth

<table>
<thead>
<tr>
<th>Part number</th>
<th>Schematic</th>
<th>Impedance ratio</th>
<th>Impedance (primary)</th>
<th>Bandwidth</th>
<th>Insertion loss max (dB)</th>
<th>DC Ratio</th>
<th>DC Ratio</th>
<th>DC Ratio</th>
<th>DC Ratio</th>
<th>Color dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC1-1L</td>
<td>A</td>
<td>1:1</td>
<td>0.40 – 600</td>
<td>0.40</td>
<td>10</td>
<td>120</td>
<td>120</td>
<td>—</td>
<td>Brown</td>
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<tr>
<td>WBC1-1TL</td>
<td>B</td>
<td>1:1</td>
<td>0.250 – 750</td>
<td>0.58</td>
<td>9.5</td>
<td>75</td>
<td>75</td>
<td>36</td>
<td>Brown</td>
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<tr>
<td>WBC2-1TL</td>
<td>B</td>
<td>1:2</td>
<td>0.200 – 500</td>
<td>0.50</td>
<td>10</td>
<td>120</td>
<td>20</td>
<td>150</td>
<td>Red</td>
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<tr>
<td>WBC3-1TL</td>
<td>B</td>
<td>1:3</td>
<td>0.300 – 900</td>
<td>0.60</td>
<td>9</td>
<td>100</td>
<td>27</td>
<td>150</td>
<td>Orange</td>
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<tr>
<td>WBC4-1TL</td>
<td>B</td>
<td>1:4</td>
<td>0.250 – 750</td>
<td>1.0</td>
<td>9</td>
<td>55</td>
<td>36</td>
<td>120</td>
<td>Yellow</td>
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<tr>
<td>WBC4-14L</td>
<td>B</td>
<td>1:4</td>
<td>1.500 – 1200</td>
<td>2.0</td>
<td>2</td>
<td>50</td>
<td>8</td>
<td>100</td>
<td>Green</td>
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<td>0.500 – 1000</td>
<td>0.90</td>
<td>5</td>
<td>80</td>
<td>20</td>
<td>120</td>
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<td>WBC4-6TL</td>
<td>B</td>
<td>1:4</td>
<td>0.300 – 700</td>
<td>0.65</td>
<td>9</td>
<td>80</td>
<td>36</td>
<td>200</td>
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<td>1:8</td>
<td>0.150 – 600</td>
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<td>176</td>
<td>310</td>
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<td>0.300 – 500</td>
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<td>81</td>
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<td>0.600 – 300</td>
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<td>80</td>
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<tr>
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<td>0.250 – 800</td>
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<td>60</td>
<td>36</td>
<td>120</td>
<td>Yellow</td>
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</table>

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

   **WBC4-4LC**
   
   Terminations: L = RoHS compliant tin-silver-copper (95.5/4/0.5) over silver-platinum-glass frit.
   Special order: S = non-RoHS tin-lead (63/37).
   Packaging: C = 7” machine-ready reel. EIA-481 embossed plastic tape (750 parts per reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
   D = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2500 parts per reel).
   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.

2. Impedance ratio is for the full primary winding to the full secondary winding.
3. Inductance measured at 100 kHz, 0.1 V, 0 Adc on an Agilent/HP 4192 or equivalent.
4. DCR measured on a micro-ohmmeter.
5. DC imbalance is the maximum difference in current measured at pins 1 and 3 with the source at pin 2. Inductance drop is 15% at maximum imbalance.
6. Electrical specifications at 25°C. Measurements are referenced to 50 Ohms. Refer to Doc 382 “Soldering Surface Mount Components” before soldering.

**Schematics**

A

B

C

D

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Please check web site for latest information.
WBC Series SMT Mini Wideband Transformers

Dimensions

Dot indicates pin 1

Dimensions are in inches/ mm

Recommended Land Pattern

*Nominal dimensions of the substrate
WBC Series SMT Mini Wideband Transformers

Attenuation measured on a network analyzer (re: 50 Ohms)
WBC Series SMT Mini Wideband Transformers

Attenuation measured on a network analyzer (re: 50 Ohms)
WBC Series SMT Mini Wideband Transformers

Attenuation measured on a network analyzer (re: 50 Ohms)