



# Wideband Transformers



- Surface mount and through hole versions
- 500 V interwinding isolation, 1/4 Watt RF input power
- 250 mA max current rating.
- For a smaller package size, see our WBC Series

**Core material** Ferrite

**Terminations** RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 0.38 – 0.40 g

**Ambient temperature** –40°C to +85°C

**Storage temperature** Component: –40°C to +85°C.

Tape and reel or tube 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)**

60 per billion hours / 16,666,667 hours, calculated per Telcordia SR-332

**Packaging** (SM version): 500 per 13" reel;

Plastic tape: 24 mm wide, 0.42 mm thick, 20 mm pocket spacing, 6.6 mm pocket depth; (TH version): 54 per tube

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.

## Dimensions – surface mount parts



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

## Dimensions – through hole parts



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

**Recommended Board Layout**



# Wideband Transformers

| Schematic  | Part number     |           | Impedance ratio <sup>2</sup><br>pri:sec | Bandwidth (MHz) | Insertion loss max (dB) | Pri (pins 4-6)          |                             | Sec (pins 1-3)          |                             | DC imbalance <sup>5</sup><br>max (mA) |
|------------|-----------------|-----------|---|-----------------|-------------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|---------------------------------------|
|            | SM <sup>1</sup> | TH        |   |                 |                         | L min <sup>3</sup> (μH) | DCR max <sup>4</sup> (mOhm) | L min <sup>3</sup> (μH) | DCR max <sup>4</sup> (mOhm) |                                       |
|            | WB1-1SL_        | WB1-1L    | 1:1                                     | 0.150–500       | 0.70                    | 27                      | 75                          | 27                      | 75                          | —                                     |
|            | WB1-6SL_        | WB1-6L    | 1:1                                     | 0.100–350       | 0.50                    | 25                      | 100                         | 25                      | 100                         | —                                     |
|            | WB1.18-3SL_     | WB1.18-3L | 1:1.18                                  | 0.040–300       | 0.50                    | 90                      | 300                         | 108                     | 330                         | —                                     |
|            | WB1.5-6SL_      | WB1.5-6L  | 1:1.5                                   | 0.050–325       | 0.26                    | 56                      | 120                         | 84                      | 150                         | —                                     |
|            | WB2-1-2WSL_     | WB2-1-2WL | 1:2                                     | 0.080–700       | 1.00                    | 38                      | 100                         | 75                      | 150                         | —                                     |
|            | WB2.5-6SL_      | WB2.5-6L  | 1:2.5                                   | 0.080–225       | 0.26                    | 30                      | 100                         | 75                      | 130                         | —                                     |
|            | WB4-6SL_        | WB4-6L    | 1:4                                     | 0.100–125       | 0.50                    | 25                      | 100                         | 100                     | 200                         | —                                     |
|            | WB9-1SL_        | WB9-1L    | 1:9                                     | 0.125–125       | 0.57                    | 25                      | 100                         | 225                     | 250                         | —                                     |
|            | WB16-1SL_       | WB16-1L   | 1:16                                    | 0.050–100       | 0.60                    | 56                      | 75                          | 896                     | 330                         | —                                     |
|            | WB36-1SL_       | WB36-1L   | 1:36                                    | 0.100–45        | 0.50                    | 25                      | 50                          | 900                     | 180                         | —                                     |
|            | WB1-1TSL_       | WB1-1TL   | 1:1                                     | 0.100–375       | 0.51                    | 25                      | 100                         | 25                      | 100                         | 30                                    |
|            | WB1-6TSL_       | WB1-6TL   | 1:1                                     | 0.050–200       | 0.20                    | 70                      | 150                         | 70                      | 150                         | 18                                    |
|            | WB2-1TSL_       | WB2-1TL   | 1:2                                     | 0.070–400       | 1.00                    | 38                      | 100                         | 75                      | 150                         | 29                                    |
|            | WB2.5-6TSL_     | WB2.5-6TL | 1:2.5                                   | 0.050–125       | 0.28                    | 56                      | 120                         | 140                     | 200                         | 13                                    |
|            | WB3-1TSL_       | WB3-1TL   | 1:3                                     | 0.040–500       | 0.40                    | 96                      | 110                         | 270                     | 200                         | 4.0                                   |
|            | WB4-1HSL_       | WB4-1HL   | 1:4                                     | 0.100–500       | 0.50                    | 25                      | 120                         | 100                     | 160                         | 15                                    |
|            | WB4-6TSL_       | WB4-6TL   | 1:4                                     | 0.050–200       | 0.50                    | 43                      | 120                         | 172                     | 160                         | 5.0                                   |
|            | WB5-1TSL_       | WB5-1TL   | 1:5                                     | 0.050–400       | 0.30                    | 48                      | 220                         | 240                     | 500                         | 13                                    |
|            | WB8-1TSL_       | WB8-1TL   | 1:8                                     | 0.150–400       | 0.76                    | 18                      | 100                         | 144                     | 270                         | 17                                    |
|            | WB13-1TSL_      | WB13-1TL  | 1:13                                    | 0.150–125       | 0.72                    | 17                      | 90                          | 221                     | 200                         | 10                                    |
| WB16-6TSL_ | WB16-6TL        | 1:16      | 0.050–100                               | 0.60            | 56                      | 75                      | 896                         | 330                     | 25                          |                                       |
|            | WBT1-6SL_       | WBT1-6L   | 1:1                                     | 0.040–200       | 0.25                    | 70                      | 150                         | 70                      | 150                         | 19                                    |
|            | WBT1.5-1SL_     | WBT1.5-1L | 1:1.5                                   | 0.040–350       | 0.30                    | 60                      | 150                         | 90                      | 180                         | 19                                    |
|            | WBT2.5-6SL_     | WBT2.5-6L | 1:2.5                                   | 0.050–100       | 0.26                    | 70                      | 150                         | 175                     | 200                         | 11                                    |
|            | WBT4-1SL_       | WBT4-1L   | 1:3                                     | 0.040–150       | 0.26                    | 45                      | 120                         | 135                     | 160                         | 13                                    |
|            | WBT4-1ASL_      | WBT4-1AL  | 1:4                                     | 0.040–350       | 0.40                    | 96                      | 110                         | 384                     | 220                         | 3.5                                   |
|            | WBT16-1SL_      | WBT16-1L  | 1:16                                    | 0.100–100       | 0.50                    | 25                      | 100                         | 400                     | 300                         | 7.5                                   |
| WBT25-1SL_ | WBT25-1L        | 1:25      | 0.100–65                                | 0.50            | 25                      | 100                     | 625                         | 350                     | 6.0                         |                                       |

1. When ordering, please specify **packaging** code:

**WB25-1SLD**

**Packaging:** **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (500 parts per full reel).  
**B** = Less than full reel. In tape, but not machine ready.  
 To have a leader and trailer added (\$25 charge), use code letter D instead.

- Impedance ratio is for the full primary winding to the full secondary winding.
  - Inductance measured at 100 kHz, 0.1 V, 0 Adc on an Agilent/HP 4192 or equivalent.
  - DCR measured on a micro-ohmmeter.
  - 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 max imbalance.
  - Electrical specifications at 25°C. Measurements are referenced to 50 Ohms.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



# Transformers with no center taps



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



## Transformers with secondary center tap



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

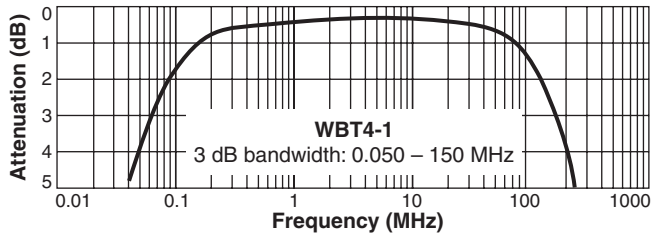
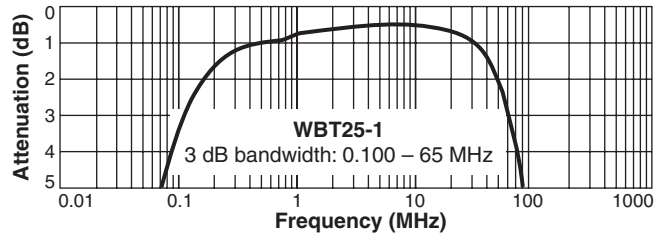
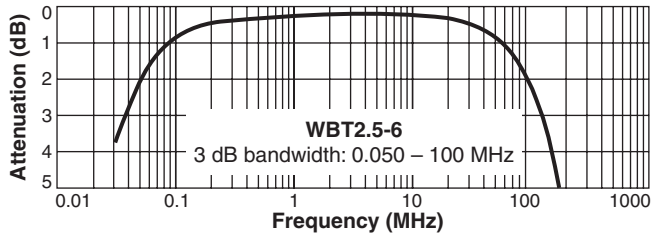
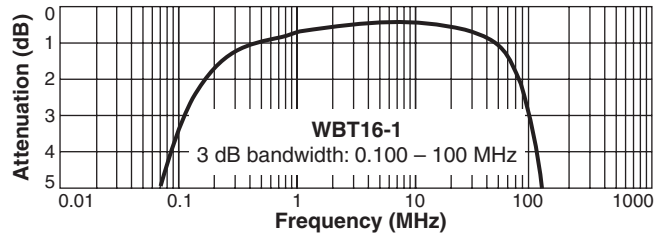
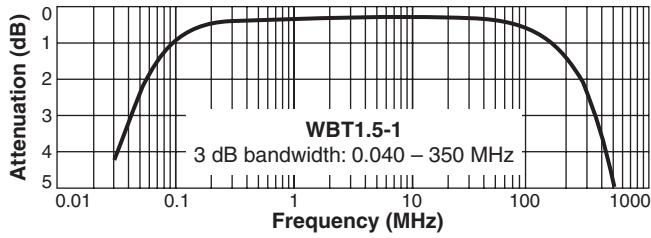


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## Transformers with primary and secondary center taps



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

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

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<http://moschip.ru/get-element>

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