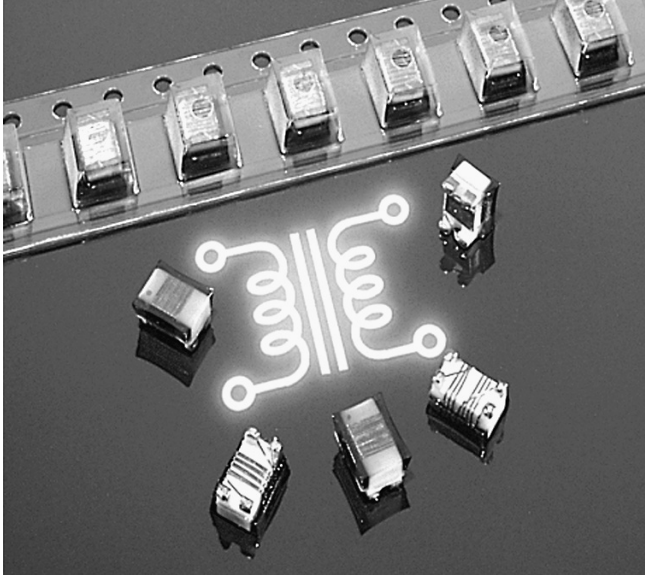




# Surface Mount Wideband RF Transformers



- 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)

**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

| Part number <sup>1</sup> | Inductance <sup>2</sup> (μH) | Test frequency (MHz) | Imp. ratio pri : sec | DCR max (Ohms) | I <sub>DC</sub> (mA) | Isolation (Vrms) | Insertion loss (dB) | Bandwidth (MHz) | Color dot |
|--------------------------|------------------------------|----------------------|----------------------|----------------|----------------------|------------------|---------------------|-----------------|-----------|
| 1812WBT-1L               | 14                           | 10                   | 1:1                  | 4.8            | 200                  | 50               | <1                  | 0.340–22        | Yellow    |
| 1812WBT-2L               | 5.3                          | 10                   | 1:1                  | 1.8            | 400                  | 50               | <1                  | 0.800–60        | Green     |
| 1812WBT-3L               | 1.25                         | 50                   | 1:1                  | 0.7            | 500                  | 50               | <1                  | 4–200           | White     |
| 1812WBT-4L               | 0.220                        | 50                   | 1:1                  | 0.3            | 700                  | 50               | <1                  | 11–480          | Orange    |
| 1812WBT-5L               | 0.090                        | 50                   | 1:1                  | 0.15           | 700                  | 50               | <1.5                | 48–645          | Red       |

## 1.5:1 Transformers

| Part number <sup>1</sup> | Inductance (μH) <sup>2</sup> |       | Test freq. (MHz) | Imp. ratio pri : sec | DCR max (Ω) |      | I <sub>DC</sub> (mA) | Isolation (Vrms) | Insertion loss (dB) | Bandwidth (MHz) | Color dot |
|--------------------------|------------------------------|-------|------------------|----------------------|-------------|------|----------------------|------------------|---------------------|-----------------|-----------|
|                          | pri                          | sec   |                  |                      | pri         | sec  |                      |                  |                     |                 |           |
| 1812WBT1.5-1L            | 5.0                          | 3.3   | 10               | 1.5:1                | 1.05        | 0.87 | 400                  | 50               | <0.5                | 1.3–100         | Red       |
| 1812WBT1.5-2L            | 2.5                          | 1.6   | 10               | 1.5:1                | 0.74        | 0.58 | 500                  | 50               | <0.5                | 2.75–135        | Orange    |
| 1812WBT1.5-3L            | 1.0                          | 0.60  | 10               | 1.5:1                | 0.43        | 0.34 | 500                  | 50               | <0.75               | 7.2–200         | Yellow    |
| 1812WBT1.5-4L            | 0.144                        | 0.090 | 10               | 1.5:1                | 0.18        | 0.14 | 700                  | 50               | <2.25               | 38–535          | Green     |

## 2:1 Transformers

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

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.



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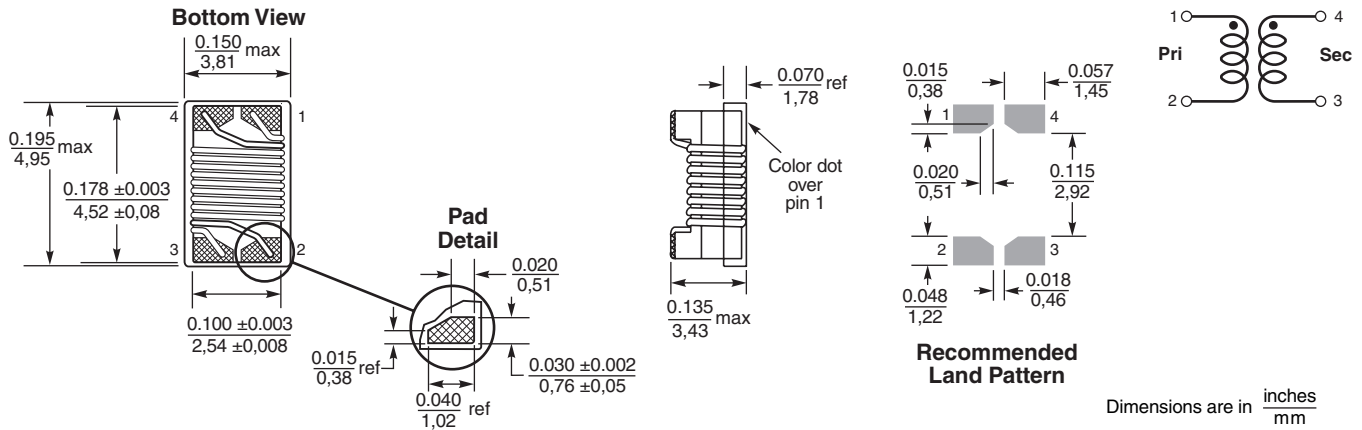
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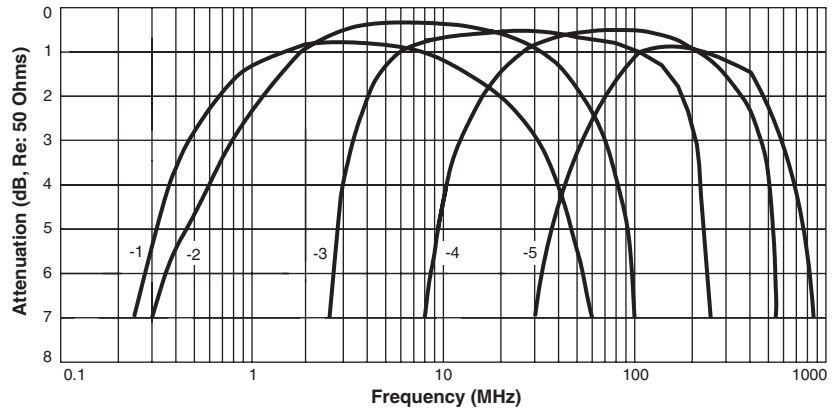
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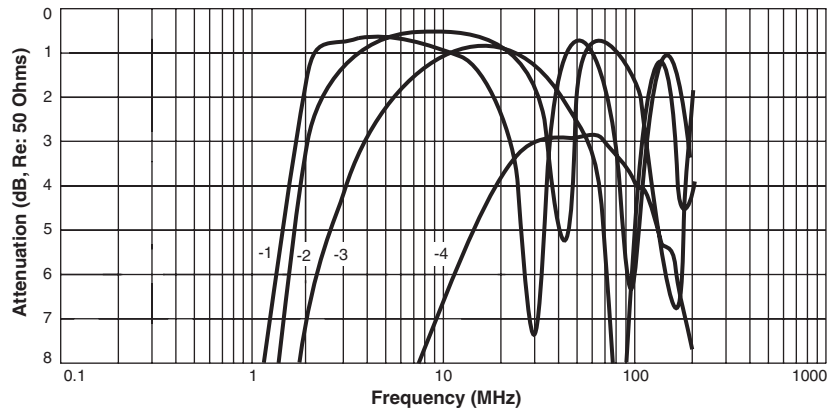
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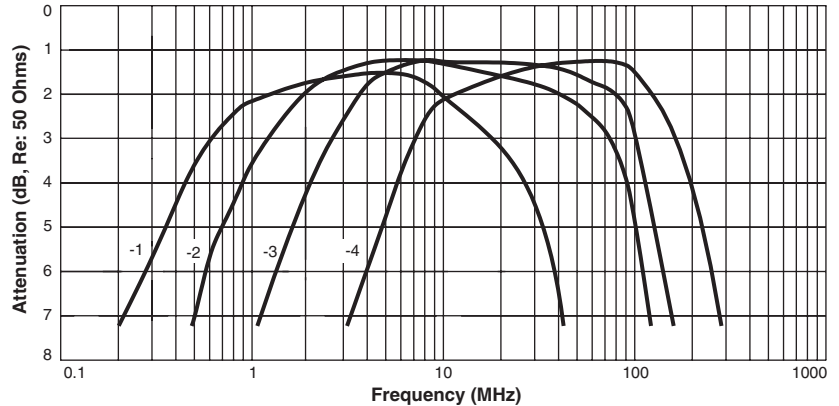
### Typical Frequency Attenuation 1:1 Transformers



### Typical Frequency Attenuation 1.5:1 Transformers



### Typical Frequency Attenuation 2:1 Transformers



Measured on a network analyzer (re: 50 Ohms)



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