



Surface Mount Wideband RF Transformers



- Cost effective surface mount wideband transformers
- 300 V interwinding isolation, 1/4 Watt RF input power
- 250 mA max current rating.

Core material Ferrite

Terminations RoHS compliant tin-silver-copper over tin over nickel over phos bronze. Other terminations available at additional cost.

Weight 250 – 270 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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

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

Packaging 250/7" reel; 1000/13" reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 5.0 mm pocket depth

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf

Typical Frequency Response

| Part number | 3 dB (MHz) | 2 dB (MHz) | 1 dB (MHz) |
|-------------|--------------|--------------|-------------|
| PWB-1-AL_ | 0.08 – 450 | 0.13 – 325 | 0.30 – 190 |
| PWB-1.5-AL_ | 0.03 – 300 | 0.035 – 250 | 0.06 – 150 |
| PWB-2-AL_ | 0.05 – 200 | 0.06 – 160 | 0.10 – 100 |
| PWB-4-AL_ | 0.15 – 500 | 0.24 – 300 | 0.60 – 140 |
| PWB-16-AL_ | 0.05 – 80 | 0.06 – 75 | 0.11 – 30 |
| PWB1010L_ | 0.0035 – 125 | 0.0045 – 100 | 0.007 – 80 |
| PWB1010-1L_ | 0.03 – 250 | 0.04 – 225 | 0.06 – 200 |
| PWB1015L_ | 0.07 – 225 | 0.10 – 200 | 0.20 – 125 |
| PWB1040L_ | 0.15 – 400 | 0.25 – 350 | 0.80 – 250 |
| PWB-1-BL_ | 0.13 – 425 | 0.18 – 325 | 0.32 – 190 |
| PWB-1.5-BL_ | 0.50 – 250 | 0.80 – 175 | 1.50 – 120 |
| PWB-2-BL_ | 0.20 – 400 | 0.225 – 275 | 0.50 – 150 |
| PWB-4-BL_ | 0.14 – 700 | 0.20 – 400 | 0.40 – 150 |
| PWB-16-BL_ | 0.075 – 90 | 0.11 – 75 | 0.20 – 65 |
| PWB2010L_ | 0.0035 – 125 | 0.0045 – 100 | 0.007 – 80 |
| PWB2010-1L_ | 0.03 – 250 | 0.04 – 225 | 0.06 – 200 |
| PWB2040L_ | 0.15 – 400 | 0.25 – 350 | 0.80 – 250 |
| PWB-1-CL_ | 0.10 – 300 | 0.13 – 200 | 0.20 – 150 |
| PWB-1.5-CL_ | 0.15 – 200 | 0.225 – 150 | 0.35 – 100 |
| PWB-2-CL_ | 0.13 – 285 | 0.20 – 175 | 0.325 – 125 |
| PWB-4-CL_ | 0.14 – 500 | 0.20 – 230 | 0.40 – 110 |
| PWB3010L_ | 0.0035 – 125 | 0.0045 – 100 | 0.007 – 80 |
| PWB3010-1L_ | 0.03 – 250 | 0.04 – 225 | 0.06 – 200 |
| PWB3015L_ | 0.07 – 225 | 0.10 – 200 | 0.20 – 125 |
| PWB3040L_ | 0.15 – 400 | 0.25 – 350 | 0.80 – 250 |



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| Type | Part number ¹ | Impedance ratio ² pri:sec | Bandwidth (MHz) | Idc (mA) | Insertion loss max (dB) | Primary (pins 1-3) | | Secondary (pins 6-4) | |
|------------|--------------------------|---|-----------------|----------|-------------------------|-------------------------|----------------|-------------------------|----------------|
| | | | | | | L min ³ (μH) | DCR max (Ohms) | L min ³ (μH) | DCR max (Ohms) |
| Type A | PWB-1-AL_ | 1:1 | 0.08 - 450 | 250 | 0.60 | 40 | 0.070 | 40 | 0.070 |
| | PWB-1.5-AL_ | 1:1.5 | 0.03 - 300 | 250 | 0.35 | 110 | 0.080 | 160 | 0.110 |
| | PWB-2-AL_ | 1:2 | 0.05 - 200 | 250 | 0.25 | 75 | 0.088 | 150 | 0.120 |
| | PWB-4-AL_ | 1:4 | 0.15 - 500 | 250 | 0.50 | 25 | 0.075 | 98 | 0.135 |
| | PWB-16-AL_ | 1:16 | 0.05 - 80 | 250 | 0.35 | 75 | 0.260 | 1250 | 0.910 |
| | PWB1010L_ | 1:1 | 0.0035 - 125 | 250 | 0.20 | 780 | 0.320 | 780 | 0.320 |
| | PWB1010-1L_ | 1:1 | 0.03 - 250 | 250 | 0.20 | 95 | 0.200 | 95 | 0.200 |
| | PWB1015L_ | 1:1.5 | 0.07 - 225 | 250 | 0.40 | 51 | 0.130 | 80 | 0.145 |
| PWB1040L_ | 1:4 | 0.15 - 400 | 250 | 0.40 | 25 | 0.115 | 95 | 0.160 | |
| Type B | PWB-1-BL_ | 1:1 | 0.13 - 425 | 250 | 0.40 | 22 | 0.070 | 22 | 0.070 |
| | PWB-1.5-BL_ | 1:1.5 | 0.50 - 250 | 250 | 0.40 | 140 | 0.100 | 200 | 0.120 |
| | PWB-2-BL_ | 1:2 | 0.20 - 400 | 250 | 0.35 | 75 | 0.088 | 150 | 0.130 |
| | PWB-4-BL_ | 1:4 | 0.14 - 700 | 250 | 0.50 | 25 | 0.075 | 98 | 0.135 |
| | PWB-16-BL_ | 1:16 | 0.075 - 90 | 250 | 0.30 | 75 | 0.260 | 1250 | 0.910 |
| | PWB2010L_ | 1:1 | 0.0035 - 125 | 250 | 0.20 | 780 | 0.320 | 780 | 0.320 |
| | PWB2010-1L_ | 1:1 | 0.03 - 250 | 250 | 0.20 | 95 | 0.200 | 95 | 0.200 |
| | PWB2040L_ | 1:4 | 0.15 - 400 | 250 | 0.40 | 25 | 0.115 | 95 | 0.160 |
| Type C | PWB-1-CL_ | 1:1 | 0.10 - 300 | 250 | 0.60 | 22 | 0.070 | 22 | 0.070 |
| | PWB-1.5-CL_ | 1:1.5 | 0.15 - 200 | 250 | 0.30 | 140 | 0.110 | 200 | 0.120 |
| | PWB-2-CL_ | 1:2 | 0.13 - 285 | 250 | 0.30 | 75 | 0.105 | 150 | 0.130 |
| | PWB-4-CL_ | 1:4 | 0.14 - 500 | 250 | 0.50 | 25 | 0.075 | 98 | 0.135 |
| | PWB3010L_ | 1:1 | 0.0035 - 125 | 250 | 0.20 | 780 | 0.320 | 780 | 0.320 |
| | PWB3010-1L_ | 1:1 | 0.03 - 250 | 250 | 0.20 | 95 | 0.200 | 95 | 0.200 |
| | PWB3015L_ | 1:1.5 | 0.07 - 225 | 250 | 0.40 | 51 | 0.130 | 80 | 0.145 |
| | PWB3040L_ | 1:4 | 0.15 - 400 | 250 | 0.40 | 25 | 0.115 | 95 | 0.160 |

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

PWB-3010-1LD

Termination: L = RoHS compliant tin-silver-copper over tin over nickel over phos bronze.
Special order: S = non-RoHS tin-lead (63/37).

Packaging: C = 7" machine ready reel. EIA-481 embossed plastic tape, 250 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 C instead.

D = 13" machine ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1000 parts per full reel).

2. Impedance ratio is for the full primary winding to the full secondary winding.

3. Inductance tested at 130 kHz, 0.1 Vrms, 0 Adc.

4. 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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Type A Transformers



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

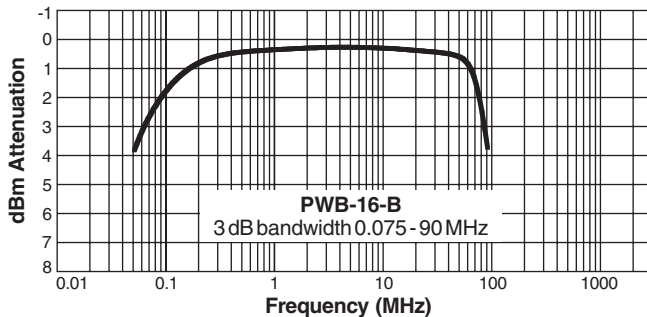


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Type B Transformers



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



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Type C Transformers



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



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