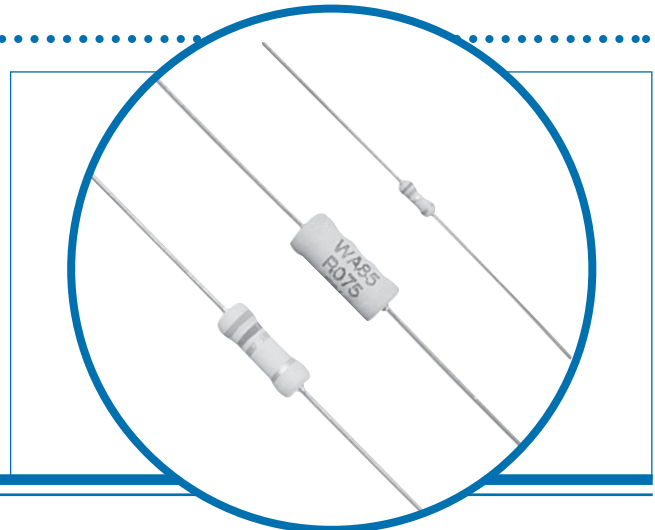


General Purpose Cement Coated Wirewound Resistors

WA80 Series

- **Cost effective**
- **Flameproof protection**
- **Can replace carbon comp. in many applications**
- **Resistance values down to 0.01 ohms**
- **Ideal for pulse handling applications**



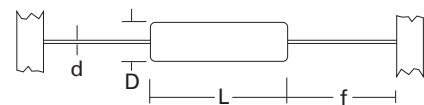
Electrical Data

| | | WA82 | WA83 | WA835 | WA84 | WA85 |
|---------------------------|---------|---------------|--------------|-------------------|-------------|--------------|
| Power rating at 25°C | watts | 1 | 2.0 | 2.5 | 3.0 | 5 |
| Power rating at 70°C | watts | .86 | 1.6 | 2.0 | 2.5 | 4.3 |
| Resistance range | ohms | OR068 to 430 | OR05 to 900R | OR05 to 900R | OR01 to 2K2 | OR015 to 6K8 |
| Limiting element voltage | volts | 50 | 50 | 75 | 100 | 150 |
| Isolation voltage | volts | 250 | 250 | 250 | 350 | 500 |
| TCR | ppm/°C | <10:350 | | >10:200 | | |
| Resistance tolerance | % | <20R: 5, 10 | | ≥20R: 1, 2, 5, 10 | | |
| Values | | E24 preferred | | | | |
| Thermal impedance | °C/watt | 140 | 110 | 90 | 82 | 54 |
| Ambient temperature range | °C | - 55 to 155 | | | | |

Physical Data

| Dimensions (mm) and Weight (g) | | | | | | | |
|--------------------------------|--------|-----------------|--------|--------|----------------------|-----------------|---------|
| Type | L max. | D max. | f min. | d nom. | PCB mounting centres | Min bend radius | Wt nom. |
| WA82 | 6.2 | 2.8 | 21.20 | 0.6 | 10.20 | 0.6 | 0.22 |
| WA83 | 9.0 | 3.6 | 19.80 | 0.8 | 12.70 | 1.2 | 0.50 |
| WA835 | 12.5 | 4.5 | 17.80 | 0.8 | 18.40 | 1.2 | 0.50 |
| WA84 | 14.5 | 5.2 (Note 1) | 24.55 | 0.8 | 20.30 | 1.2 | 1.10 |
| WA85 | 16.5 | 7.0 (Note 2) | 23.55 | 0.8 | 22.86 | 1.2 | 1.75 |

Note 1: 5.4 for values ≤OR1 Note 2: 7.2 for values ≤OR1



Construction

A high quality ceramic substrate is assembled with interference fit end caps to which are welded the termination wires. The resistive element is wound on the substrate and welded to the caps. Cement protection is applied to the resistor body before marking with indelible ink.

Terminations

Material

Hot tin dipped copper wire

Strength

The terminations meet requirements of IEC 68.2.21.

Solderability

The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2.

General Note

Welwyn Components reserves the right to make changes in product specification without notice or liability. All information is subject to Welwyn's own data and is considered accurate at time of going to print.

General Purpose Cement Coated Wirewound Resistors

WA80 Series

Marking

WA85 resistors are legend marked with type reference, resistance value and tolerance. In conformance with IEC 62.

WA82, 83, 835 and 84 resistors OR1 and above are colour coded with 4 bands in conformance with IEC 62. Values below OR1 are 3 band marked, two digits and tolerance, there is no multiplier band.

Solvent Resistance

The body protection and marking are resistant to all normal industrial cleaning fluids suitable for printed circuits.

Flammability

The resistor coating will not burn under any condition of applied temperature or component overload.

Performance Data

| | | Maximum | Typical |
|---|-----|---------------------------|---------|
| Load at rated power: 1000 hrs at 25 or 70°C | ΔR% | 5.0 + .001Ω | 3.0 |
| Dry heat: 1000 hrs at 200°C | ΔR% | 5.0 + .001Ω | 3.0 |
| Derating from rated power at 25°C | | See derating curve | |
| Short term overload | ΔR% | 5.0 + .001Ω | 1.0 |
| Climatic | ΔR% | 5.0 + .001Ω | 2.0 |
| Climatic category | ΔR% | 55/200/56Ω | |
| Long term damp Heat: 56 days | ΔR% | 5.0 + .001Ω | 1.0 |
| T.R.C. & Vibration | ΔR% | 5.0 + .001Ω | 1.0 |
| Robustness & Solder Heat | ΔR% | 5.0 + .001Ω | 1.0 |
| Pulse Handling | | Data available by request | |

Application Notes

Care must be taken when determining clearance between the resistor body and the P.C.B. or other components. Resistance is measured 6mm from body.

Packaging

All resistors are supplied tape packed ready for loading onto automatic sequencing and insertion machines. The critical dimensions are shown in figure 2.

Component wires will not protrude beyond the outside edge of the tapes.

All taped resistors will be supplied either on reels or in ammopacks, depending upon quantities ordered.

WA series resistors can be supplied preformed. Contact factory for details.

| Type | WA82 | WA83 | WA835 | WA84 | WA85 |
|------|------|------|-------|------|------|
| b | 52 | 52 | 52 | 67 | 63 |
| c | 5 | 5 | 5 | 10 | 10 |

Standard Quantities Per Package

| Type | WA82 | WA83 | WA835 | WA84 | WA85 |
|-----------------|------|------|-------|------|------|
| Reel | 5000 | 2500 | 2500 | 1000 | 750 |
| Large ammo pack | 5000 | 2500 | 1500 | 1000 | 700 |

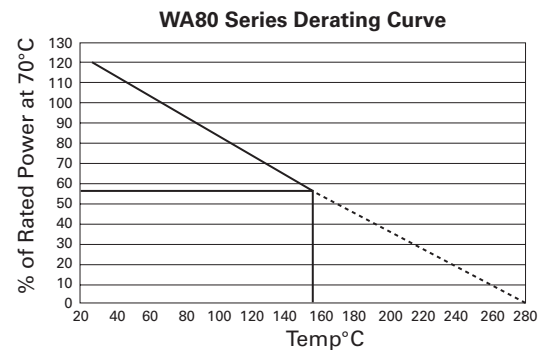
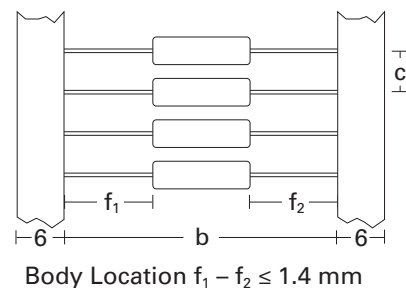


Figure 2

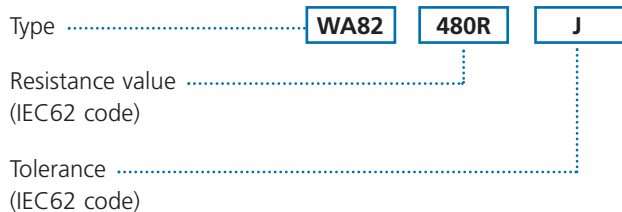


General Purpose Cement Coated Wirewound Resistors

WA80 Series

Ordering Procedure

Specify type reference, value and tolerance as shown in this example of WA82 480R 5%:



| | |
|---|----|
| F | 1% |
| G | 2% |
| J | 5% |