

ARC3 High Voltage Precision Resistors



Designed for applications such as voltage dividers, medical and measuring equipment, electrostatic and current limiting devices where high stability, low TCR and high ohmic values are required.

- Non Inductive, Thick Film
- Low TCR
- RoHS Compliant
- High Voltage to 96 kVdc
- Tolerance as low as $\pm 0.1\%$



Characteristics

| | | |
|---------------------------------|---|---|
| Operating temperature: | -55°C to +225°C | |
| Tolerance (Code): | $\pm 0.1\%$ (B), $\pm 0.25\%$ (C), $\pm 0.5\%$ (D), $\pm 1\%$ (F), $\pm 2\%$ (G), $\pm 5\%$ (J), $\pm 10\%$ (K) | |
| Temperature Coefficient (Code): | $\pm 15\text{ppm}/^\circ\text{C}$ (A), $\pm 25\text{ppm}/^\circ\text{C}$ (E), $\pm 50\text{ppm}/^\circ\text{C}$ (F), $\pm 100\text{ppm}/^\circ\text{C}$ (S), $\pm 200\text{ppm}/^\circ\text{C}$ (L) | |
| | TCR stated is measure at +25°C and +85°C. For TCR outside this range, please contact ARCOL | |
| Insulation resistance: | > 10,000Mohm | 500 Volts @ 25°C, 75% relative humidity |
| Dielectric strength: | > 1000 Volt | 25°C, 75% relative humidity |
| Thermal shock: | $\Delta R/R$ 0.25% max | |
| Overload: | $\Delta R/R$ 0.25% max | 1.5 x Pnom, 5 sec (do not exceed 1.5 x V max) |
| Moisture resistance: | $\Delta R/R$ 0.25% max | |
| Load life: | $\Delta R/R$ 0.5% max | 1000 hours at rated load |

These resistors are tailored for operation in air and not aggressive atmospheres. For special applications (i.e. oil, casting, moulding, etc) please contact ARCOL.

Electrical Specifications

| Type | Electrical data | | Resistance range available at Tolerance / TCR | | | | | |
|----------|-------------------|------------|---|------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|
| | P Watt 40°C | U kV dc | $\pm 0.1\text{-}10\%$ 15 ppm/°C | $\pm 0.1\text{-}10\%$ 25 ppm/°C | $\pm 0.5\text{-}10\%$ 50 ppm/°C | $\pm 0.5\text{-}10\%$ 100 ppm/°C | $\pm 2\text{-}10\%$ 150 ppm/°C | $\pm 2\text{-}10\%$ 200 ppm/°C |
| ARC3-11 | 11 | 24 | 50K-500M | 50K-500M | 500R-1G | 500R-1G | 500R-5G | 500R-5G |
| ARC3-23 | 23 | 48 | 100K-1G | 100K-1G | 700R-1G | 700R-1G | 700R-10G | 700R-10G |
| ARC3-54 | 54 | 48 | 100K-1G | 100K-1G | 2R-1G | 2R-1G | 2R-10G | 2R-10G |
| ARC3-71 | 71 | 64 | 100K-1G5 | 100K-1G5 | 20R-1G5 | 20R-1G5 | 20R-15G | 20R-15G |
| ARC3-105 | 105 | 96 | 150K-2G | 150K-2G | 80R-2G | 80R-2G | 80R-25G | 80R-25G |

For more information and ordering, please consult
www.arcolresistors.com

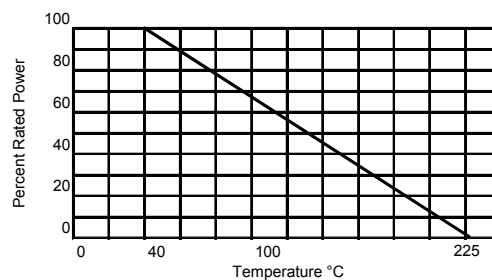
Ordering Procedure

Standard Resistor To specify standard: Series, Termination Style, Coating Type, Ohmic Value, Tolerance Code and Temperature Coefficient Code, e.g.: ARC3-23 20M D E

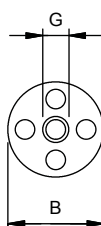
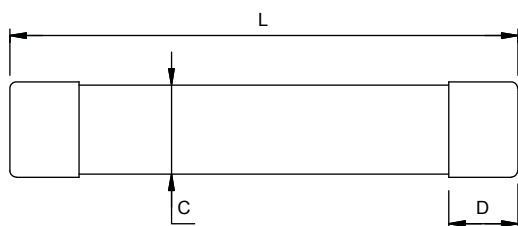
Tolerance (Code) $\pm 0.1\%$ (B), $\pm 0.25\%$ (C), $\pm 0.5\%$ (D), $\pm 1\%$ (F), $\pm 2\%$ (G), $\pm 5\%$ (J), $\pm 10\%$ (K)

Temperature Coefficient (Code) $\pm 15\text{ppm}/^\circ\text{C}$ (A), $\pm 25\text{ppm}/^\circ\text{C}$ (E), $\pm 50\text{ppm}/^\circ\text{C}$ (F), $\pm 100\text{ppm}/^\circ\text{C}$ (S), $\pm 200\text{ppm}/^\circ\text{C}$ (L)

Derating Curve



Dimensions (mm)



| Type | L | B | C | D | G |
|----------|---------------|----------------|----------------|----------------|----|
| ARC3-11 | 81 ± 1 | 14.5 ± 0.2 | 13.5 ± 0.5 | 10.0 ± 0.2 | M4 |
| ARC3-23 | 156 ± 2 | 14.5 ± 0.2 | 13.5 ± 0.5 | 10.0 ± 0.2 | M4 |
| ARC3-54 | 160 ± 2 | 31.5 ± 0.2 | 30.5 ± 0.5 | 18.0 ± 0.2 | M8 |
| ARC3-71 | 210 ± 2.5 | 31.5 ± 0.2 | 30.5 ± 0.5 | 18.0 ± 0.2 | M8 |
| ARC3-105 | 308 ± 3.5 | 31.5 ± 0.2 | 30.5 ± 0.5 | 18.0 ± 0.2 | M8 |