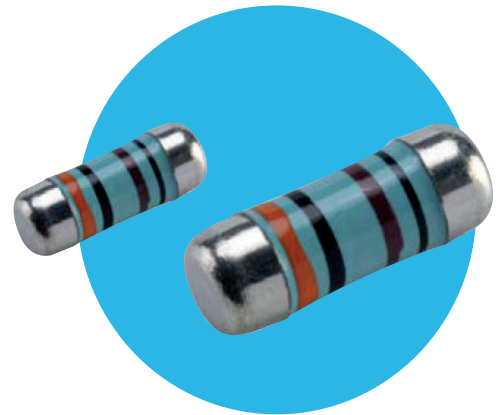


## High Voltage MELF Resistors

### WRM-HV Series

- High limiting element voltage up to 1kV
- 1.2/50µs surge voltage to 6kV
- Tolerance down to ±0.1%
- TCR down to ±25ppm/°C



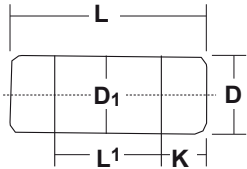
All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

### Electrical Data

|                           |        | WRM0204HV                            | WRM0207HV |
|---------------------------|--------|--------------------------------------|-----------|
| Power rating at 70°C      | watts  | 0.4                                  | 1         |
| Resistance range          | ohms   | 340K – 3M4                           |           |
| Limiting element voltage  | volts  | 500                                  | 1000      |
| Maximum overload voltage  | volts  | 1000                                 | 2000      |
| TCR                       | ppm/°C | 25, 50                               |           |
| Resistance tolerance      | %      | ≤1M0: 0.1, 0.25, 0.5, 1 >1M0: 0.5, 1 |           |
| Standard values           |        | E24 & E96                            |           |
| Thermal impedance         | °C /W  | 200                                  | 140       |
| Ambient temperature range | °C     | -55 to +155                          |           |
| Insulation resistance     | ohms   | >10 <sup>10</sup>                    |           |
| Voltage proof             | volts  | 710                                  | 1420      |

### Physical Data

| Dimensions (mm) and weight (g) |       |       |        |       |                    |        |
|--------------------------------|-------|-------|--------|-------|--------------------|--------|
| Type                           | L max | D max | D1 max | K min | L <sup>1</sup> min | Weight |
| WRM 0204HV                     | 3.7   | 1.55  | 1.55   | 0.7   | 1.5                | 0.02   |
| WRM 0207HV                     | 6.1   | 2.4   | 2.4    | 1.2   | 2.9                | 0.08   |



### Construction

A metal film is deposited onto a high dissipation ceramic former to which tin plated terminating caps are fitted.

The resistor is adjusted to value by a helical cut in the film and the body is protected by a lacquer coating.

### Marking

Resistance values are colour coded with three or four bands, indicating value and multiplier.

### Terminations

**Material** Plated steel cap.

**Solderability** The pure tin finish produces ageing free contacts on which low melting solders can be used. Dipped area shall be covered with a smooth and bright solder coating after 3 seconds immersion at 215°C.

### Solvent Resistance

The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuit boards.

### General Note

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WRM-HV Series

## Performance Data

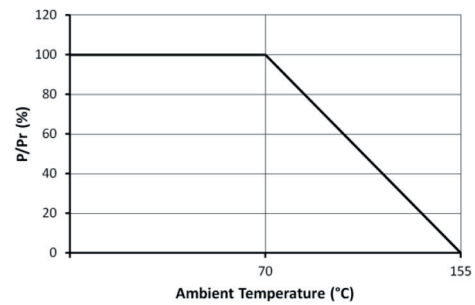
|  |      |                           |
|--|------|---------------------------|
|  |      | Maximum (+0.05Ω)          |
| Short time overload: 5s at lesser of 6.25 x rated power or 2 x LEV | ±ΔR% | 0.15                      |
| Damp heat with load: 1000hrs 40±2°C/90-95%RH cyclic rated power    | ±ΔR% | 1                         |
| High temperature exposure: 1000hrs at 155°C                        | ±ΔR% | 1                         |
| Bending test: 2mm deflection for 60s                               | ±ΔR% | 0.5                       |
| Resistance to soldering heat: 260±5°C for 10s                      | ±ΔR% | 0.25                      |
| Temperature rapid change: 1000cycles-55/125°C                      | ±ΔR% | 1                         |
| Endurance: 1000hrs rated power at 70°C                             | ±ΔR% | 1                         |
| Solderability: 245±5°C for 3s                                      |      | >95% coverage             |
| Voltage proof: 1.42 x LEV  |      | No breakdown or flashover |

### Pulse Performance

Limits for ΔR are ±0.5%

| Peak surge voltage | WRM0204HV | WRM0207HV |
|--------------------|-----------|-----------|
| 1.2/50μs           | 4.5kV     | 6kV       |
| 10/700μs           | 2.2kV     | 3kV       |

Derating Curve



## Ordering Procedure

Example: WRM0204HVC-1M0FT3 (WRM0204HV, 50ppm/°C, 1 megohm ±1%, Pb-free)

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | R | M | 0 | 2 | 0 | 4 | H | V | C | - | 1 | M | 0 | F | T | 3 |
| 1 |   |   |   |   |   |   |   |   |   | 2 | 3 |   |   | 4 | 5 |   |

| 1<br>Type | 2<br>TCR      | 3<br>Value                                   | 4<br>Tolerance | 5<br>Packing |      |                |
|-----------|---------------|--|----------------|--------------|------|----------------|
| WRM0204HV | D = ±25ppm/°C | 3/4 characters<br>K = kilohms<br>M = megohms | B = ±0.1%      | T3           | 0204 | 3000 / 7" reel |
| WRM0207HV | C = ±50ppm/°C |  | C = ±0.25%     | T2           | 0207 | 2000 / 7" reel |
|           |               |  | D = ±0.5%      |              |      |                |
|           |               |  | F = ±1%        |              |      |                |

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