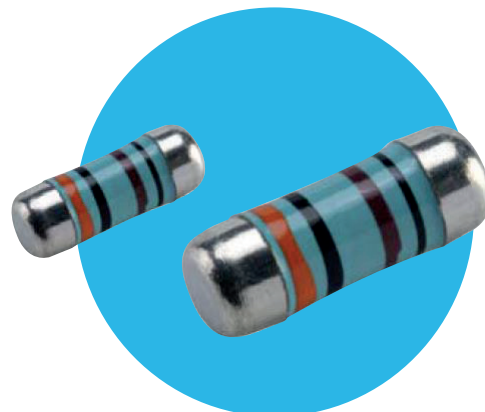


# High Voltage MELF Resistors

## WRM-HV Series

- High limiting element voltage up to 1kV
- 1.2/50µs surge voltage to 6kV
- Tolerance down to  $\pm 0.1\%$
- TCR down to  $\pm 25\text{ppm}/^\circ\text{C}$

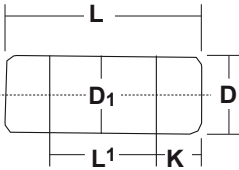


All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

## 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<br>max | D<br>max | D1<br>max | K<br>min | L <sup>1</sup><br>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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All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Performance Data

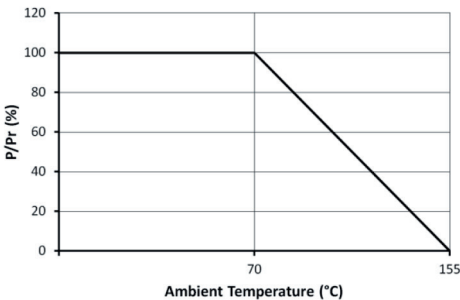
|                                                                    |      |                           |
|--------------------------------------------------------------------|------|---------------------------|
|                                                                    |      | Maximum (+0.05Ω)          |
| 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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## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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