

# High Voltage MELF Resistors

## WRM-HV Series

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



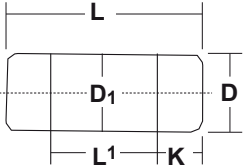
All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

## Electrical Data

		WRM0204HV	WRM0207HV
Power rating at 70 $^{\circ}$ C	watts	0.4	1
Resistance range	ohms	340K – 3M4	
Limiting element voltage	volts	500	1000
Maximum overload voltage	volts	1000	2000
TCR	ppm/ $^{\circ}$ C	25, 50	
Resistance tolerance	%	$\leq 1M\Omega$ : 0.1, 0.25, 0.5, 1 $> 1M\Omega$ : 0.5, 1	
Standard values		E24 & E96	
Thermal impedance	$^{\circ}$ C /W	200	140
Ambient temperature range	$^{\circ}$ C	-55 to +155	
Insulation resistance	ohms	$> 10^{10}$	
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 $^{\circ}$ C.

## Solvent Resistance

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

## General Note

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

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## 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 Type	2 TCR	3 Value	4 Tolerance	5 Packing		
WRM0204HV	D = ±25ppm/°C	3/4 characters K = kilohms 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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