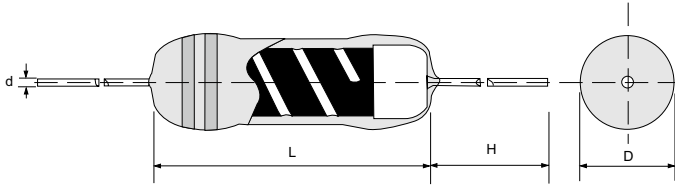


# MVR Medium Voltage Resistor

Quality • Reliability  
Cost-Down via Innovation

MVR



## Specifications Per

- IEC 60115-1
- MIL-R-10509

## Features

- Higher working voltage with improved reliability
- Proprietary conductive film
- Especially suitable for SMPS & lighting devices
- Low-cost alternative to metal-glazed resistors
- Products meet RoHS requirements and do not contain substances of very high concern identified by European Chemicals Agency

## DIMENSIONS

Type	Body Length (L, mm)	Body Diameter (D, mm)	Lead Wire Length (H, mm)	Lead Wire Diameter (d, mm)	Net Weight Per 1000Pcs
MVR20	3.20 ± 1.0	1.9 ± 0.2	28 ± 3.0	0.45 ± 0.03	145 Grams
MVR25	6.50 ± 1.0	2.4 ± 0.2	26 ± 3.0	0.55 ± 0.03	220 Grams
MVR51	9.00 ± 1.0	3.2 ± 0.2	26 ± 3.0	0.60 ± 0.03	340 Grams
MVR100	11.0 ± 1.0	4.5 ± 0.5	26 ± 3.0	0.70 ± 0.03	600 Grams
MVR200	15.5 ± 1.0	5.5 ± 0.5	26 ± 3.0	0.80 ± 0.03	1200 Grams

## GENERAL SPECIFICATIONS

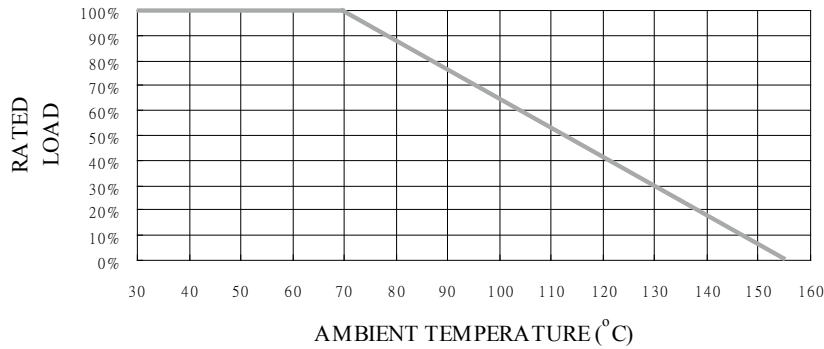
Type	Power Rating (at 70°C)	Maximum Working Voltage	Maximum Overload Voltage	Minimum Resistance	Maximum Resistance	Resistance Tolerance	Available Resistance Values
MVR20	1/4W	550V DC 400V RMS	1.1KV DC 800V RMS	47KΩ	33MΩ	±0.1%~ 5%	E-24/E-96
MVR25	1/4W	1.1KV DC 800V RMS	2.2KV DC 1.6KV RMS	47KΩ	33MΩ	±0.1%~ 5%	E-24/E-96
MVR51	1/2W	2.3KV DC 1.6KV RMS	4.6KV DC 3.2KV RMS	47KΩ	68MΩ	±0.1%~ 5%	E-24/E-96
MVR100	1W	4KV DC 2.8KV RMS	8KV DC 5.6KV RMS	47KΩ	100MΩ	±0.1%~ 5%	E-24/E-96
MVR200	2W	7KV DC 5KV RMS	14KV DC 10KV RMS	47KΩ	100MΩ	±0.1%~ 5%	E-24/E-96

Special sizes, values, and specifications not listed available on special order.

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■ **POWER DERATING CURVE**



■ **PART NUMBER**

Example: MVR100J470KTKZTB1K0

MVR100	J	470K	TKZ	TB1K0
Type	Tolerance*	Resistance	TCR	Packaging
	B (0.1%) C (0.25%) D (0.5%) F (1%) J (5%)	470KΩ <b>4-character code</b> containing - 3 significant digits 1 letter multiplier  <u>OHM MULTIPLIER</u> R = 1 K = 10 <sup>3</sup> M = 10 <sup>6</sup> G = 10 <sup>9</sup>	<b>3-character code</b>  TKZ = Default Product Temperature Coefficient.  Information of typical product temperature coefficient can be found in the Technical Summary section of the datasheet.**	<b>5-character code</b>  TB = Tape Box  (pieces per box) <u>MVR20/MVR25</u> 5K0 = 5,000  <u>MVR51</u> 2K0 = 2,000  <u>MVR100</u> 1K0 = 1,000  <u>MVR200</u> 500 = 500

\* Listed values may not be applicable to all product types or to all resistance values. Please check with us before placing order.

\*\* For the availabilities of non-default temperature coefficient, please check with us. Reference for TCR letter codes can be found in section (4) of Part Number Construction in the Appendices.

### TECHNICAL SPECIFICATIONS

Characteristics	Limits
Dielectric Withstanding Voltage, VAC or DC	MVR20: 300 MVR25: 500 MVR51: 700 MVR100/MVR200: 1000
Temperature Coefficient, PPM / °C*	±100, ±200, ±400, ±800
Operating Temperature Range, °C	-55 ~ +155
Insulation Resistance, MΩ	>10 <sup>4</sup>

\* Not applicable to all resistance values. Please check with us regarding the PPM of specific resistance value(s).

### PERFORMANCE SPECIFICATIONS

Characteristics	Test Conditions	Limits
Short Time Over Load	<b>IEC 60115-1 4.13</b> 5 seconds 2.5x rated voltage (not over max. overload voltage)	±1%
Load Life In Humidity	<b>IEC 60115-1 4.24</b> 56 days rated load (not over max. working voltage) at (40±2)°C and (93±3)% relative humidity	±3%
Load Life	<b>IEC 60115-1 4.25.1</b> Rated load (not over max. working voltage) 1,000 hours with 1.5 hours ON, 0.5 hours OFF, at (70±2)°C	±3%
Resistance To Soldering Heat	<b>IEC 60115-1 4.18.2</b> Leads immersed till 3mm from the body in (260±5)°C solder for 10±1 seconds	±1%
Solderability	<b>IEC 60115-1 4.17.2</b> Solder area covered after (235±3)°C/(2±0.2) seconds with flux applied	95% min.coverage
Vibration	<b>IEC 60115-1 4.22</b> Six hours in each parallel and axial direction with a simple harmonic motion having an amplitude of 0.75mm and 10 to 500 Hz.	±1%
Thermal Endurance	<b>IEC 60115-1 4.25.3</b> 1000 hours at 155°C without load	±5%
Thermal Shock	<b>IEC 60115-1 4.19</b> -55°C 30minutes, +155°C 30minutes, 5 cycles	±2%