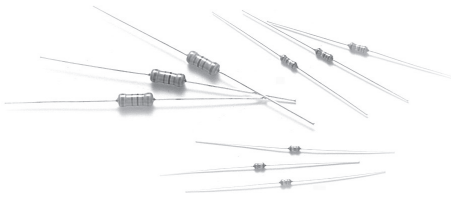


Metal Glazed Film Resistors

High Voltage & High Ohmic Type

Normal & Miniature Style [HHV Series]



INTRODUCTION

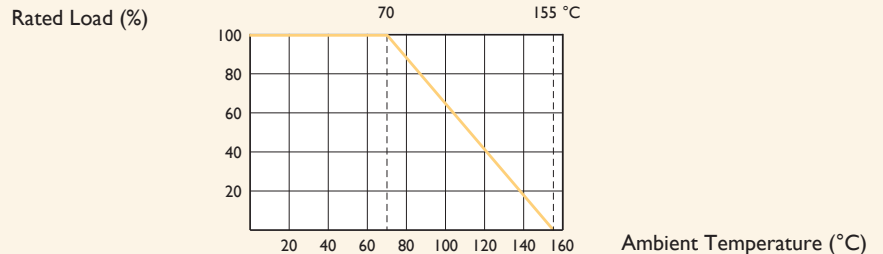
The HHV Series High Voltage & High Ohmic Resistors are made of metal glaze film, with tinned connecting leads of electrolytic copper welded to the end-caps. The resistors are coated with layers of pink color lacquer.

FEATURES

| | |
|--|------------------------|
| Power Rating | 1/4W, 1/2W, 1W, 2W, 3W |
| Resistance Tolerance | ±1%, ±5% |
| T.C.R. | ±200ppm/°C |
| Flameproof Multi-layer Coating Meets | UL-94V-0 |
| Flameproof Feature Meets Overload Test | UL-1412 |

DERATING CURVE

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.



DIMENSIONS



5th color code: yellow

Unit: mm

| STYLE | | DIMENSION | | | |
|--------|-----------|-----------|---------|--------|-----------|
| Normal | Miniature | L | øD | H | ød |
| HHV-25 | HHV50S | 6.3±0.5 | 2.4±0.2 | 28±2.0 | 0.55±0.05 |
| HHV-50 | HHV1SS | 9.0±0.5 | 3.3±0.3 | 26±2.0 | 0.55±0.05 |
| HHV1WS | HHV2SS | 11.5±1.0 | 4.5±0.5 | 35±2.0 | 0.8±0.05 |
| HHV2WS | HHV3SS | 15.5±1.0 | 5.0±0.5 | 33±2.0 | 0.8±0.05 |

Note:

ELECTRICAL CHARACTERISTICS

| STYLE | HHV-25 | HHV50S | HHV-50 | HHVISS | HHVIWS | HHV2SS | HHV2WS | HHV3SS |
|-------------------------------|---|--------|--------|--------|---------|--------|---------|--------|
| Power Rating at 70°C | 1/4W | 1/2W | | 1W | | 2W | | 3W |
| Maximum Working Voltage (DC) | 1,600V | | 3,500V | | 5,000V | | 7,000V | |
| Maximum Overload Voltage (DC) | 3,000V | | 7,000V | | 10,000V | | 14,000V | |
| Voltage Proof on Insulation | 300V | | 500V | | 700V | | | |
| Resistance Range | 100KΩ - 68MΩ for E24 & E96 series value | | | | | | | |
| Operating Temp. Range | -55°C to +155°C | | | | | | | |
| Temperature Coefficient | ±200pm/°C | | | | | | | |

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

| PERFORMANCE TEST | TEST METHOD | | APPRAISE |
|-------------------------------|------------------|---|---|
| Short Time Overload | IEC 60115-1 4.13 | 2.5 times RCWV for 5 sec. (Not more than maximum Overload Voltage) | ±2.0%+0.05Ω |
| Voltage Proof on Insulation | IEC 60115-1 4.7 | In V-Block for 60 sec., test voltage as above table | No Breakdown |
| Temperature Coefficient | IEC 60115-1 4.8 | Between -55°C to +155°C | By type |
| Insulation Resistance | IEC 60115-1 4.6 | in V-block for 60 Sec. | >10,000MΩ |
| Solderability | IEC 60115-1 4.17 | 245±5°C for 3±0.5 Sec. | 95% Min. coverage |
| Solvent Resistance of Marking | IEC 60115-1 4.30 | IPA for 5±0.5 Min. with ultrasonic | No deterioration of coatings and markings |
| Robustness of Terminations | IEC 60115-1 4.16 | Direct load for 10 Sec. in the direction of the terminal leads | ≥2.5kg (24.5N) |
| Periodic-pulse Overload | IEC 60115-1 4.39 | 4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off) | ±1.0%+0.05Ω |
| Damp Heat Steady State | IEC 60115-1 4.24 | 40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV | ±5.0%+0.05Ω |
| Endurance at 70°C | IEC 60115-1 4.25 | 70±2°C at RCWV (or Umax., Whichever less) for 1,000 Hr. (1.5Hr: on, 0.5Hr: Off) | ±5.0%+0.05Ω |
| Temperature Cycling | IEC 60115-1 4.19 | -55°C ⇌ Room Temp. ⇌ +155°C ⇌ Room Temp. (5 cycles) | ±1.0%+0.05Ω |
| Resistance to Soldering Heat | IEC 60115-1 4.18 | 260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body | ±1.0%+0.05Ω |
| Accidental Overload Test | IEC 60115-1 4.26 | 4 times RCWV for 1 Min. | No evidence of flaming or arcing |

Note: RCWV(Rated Continuous Working Voltage) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$ or Max. working voltage listed above, whichever less.