Cylindrical High Voltage Resistors,
Thicker film, Non-Inductive

High Voltage High Frequency Resistors for various High Voltage Applications

3RLAB offers HTE-series to meet general set of requirements, high voltages at reasonable prices. HTE is in epoxy coating which is very good humidity protection, and a wide range of tolerances, TCR available.

HTE Precision High Voltage Resistor,
The main usage;

- Epoxy coating for excellent humidity protection
- Std. Resistance tolerance: 0.5% 1% 2% 5%
- Main application for HV energy Capacitor’s charger & discharger, various HV Loads, HV Snubber, HV damping, on HV diode, R-C tank, ion gun’s termination, etc...

* Resistance rating: 1kΩ to 100MΩ
* Power Ratings up to 15 Watts.
* Various Models with Voltage Ratings from 2.5kV to 48kV in free air.
* N.C.R. design: Non-contact resistance design between resistive and termination cap, put on 3RLab’s unique of conductive pad.

<table>
<thead>
<tr>
<th>Model Nr.</th>
<th>Wattage</th>
<th><strong>Max. Continuous Oper. Volt[kV]</strong></th>
<th>Resistance [ohm]</th>
<th>Dimensions in millimeters (inches)</th>
<th>SMD type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min. Max.</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>HTE15</td>
<td>0.7</td>
<td>2.5</td>
<td>1K 100M</td>
<td>15+/−1.5 (.590)</td>
<td>5.0+/−1.5 (.197)</td>
</tr>
<tr>
<td>HTE19</td>
<td>1.0</td>
<td>3.5</td>
<td>1K 100M</td>
<td>19+/−1.5 (.748)</td>
<td>5.0+/−1.5 (.197)</td>
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<tr>
<td>HTE25</td>
<td>1.2</td>
<td>5.5</td>
<td>1K 100M</td>
<td>25.4+/−1.5 (1.0)</td>
<td>5.0+/−1.5 (.197)</td>
</tr>
<tr>
<td>HTE24</td>
<td>2.0</td>
<td>5.5</td>
<td>1K 100M</td>
<td>24.0+/−1.5 (.944)</td>
<td>8.0+/−1.0 (.314)</td>
</tr>
<tr>
<td>HTE39</td>
<td>3.0</td>
<td>10.0</td>
<td>1K 100M</td>
<td>39.0+/−1.5 (1.50)</td>
<td>8.0+/−1.0 (.314)</td>
</tr>
<tr>
<td>HTE52</td>
<td>5.0</td>
<td>15.0</td>
<td>1K 100M</td>
<td>52.0+/−1.5 (2.04)</td>
<td>8.0+/−1.0 (.314)</td>
</tr>
<tr>
<td>HTE76</td>
<td>7.5</td>
<td>22.5</td>
<td>2K 100M</td>
<td>76.0+/−1.5 (2.54)</td>
<td>8.0+/−1.0 (0.354)</td>
</tr>
<tr>
<td>HTE102</td>
<td>10.0</td>
<td>32.0</td>
<td>2K 100M</td>
<td>102.0+/−1.5 (4.01)</td>
<td>9.0+/−1.0 (0.354)</td>
</tr>
<tr>
<td>HTE127</td>
<td>12.0</td>
<td>40.0</td>
<td>2K 100M</td>
<td>127.0+/−1.5 (5.00)</td>
<td>9.0+/−1.0 (0.354)</td>
</tr>
<tr>
<td>HTE152</td>
<td>15.0</td>
<td>48.0</td>
<td>2K 100M</td>
<td>152.0+/−1.5 (5.98)</td>
<td>9.0+/−1.0 (0.354)</td>
</tr>
</tbody>
</table>

* Custom dimension & specification available upon request
* Above mentioned Electrical specification applicable for 0.1MΩ ~ 100MΩ only
* Voltage restricted by the rated power
* Vdc, Vrms standard. And at 1.25/50μs impulse; std. Voltage ± 1.5 times available
**DIMENSIONS [mm]**

- **A**: 35 ± 5
- **B**:
- **C**:

**DERATING CURVE**

- **Resistance Tolerance**: 1%, 2%, 5%, and 0.5%.
- **Endurable Harsh to Environment (Temperature)**: -55°C to +195°C. Max. broken temperature on resistive parts is 600°C (for 70 min.).
- **Temperature Coefficient of Resistance**: 100ppm/°C standard referenced to 25°C, from -25°C to +125°C. (80ppm/°C and special TCR upon request)
- **Overload/Voltage**: 5 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds ΔR 0.5% max.

**APPLICATION GUIDE ; HTE SERIES**

- Automated Test (ATE)
- Medical (Imaging)
- Ion Source
- Chromatography (Gas)
- Medical (Radiation Therapy)
- Military, Radar, Laser, Plasma
- Measurements (High Voltage)
- HV Capacitor Charging, Discharging
- Electric Power Transmission High Voltage
- Medical (Blood Analyzers)
- Corona Generators
- Multichannel Analyzers
- Ozone Generating
- Detectors
- Nuclear Instrumentation
- Electron Beam
- Pulse Generators
- Surface Analysis
- C T, MRI
- Electrophoresis
- Image Intensifier
- Surface Analysis
- Piezo. Focusing (Poling)
- High Voltage Dividers
- Stress Testing
- Klystron, Magnetron, Microwave

**SPECIFICATIONS**

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**Thermal Shock**

Mil-Std-202, Method-107, Cond. C, ΔR 0.25% max.

**Load Life**

1,000 hours at rated power ΔR 0.7% max.

**Moisture Resistance**

Mil-Std-202, Method 106, ΔR 0.4% max.

**Lead Material**

Tinned plated copper soldsderable semi-flexible axial wire.

**Insulation Resistance**

10,000MΩ Min.

**Termination Cap of Material**

Tinned Cap.

**Encapsulation**

Epoxy conformal.

**Resistive Material**

Thicker Film.

**Contact method between Resistives and termination Caps**

Individual Conductive Pads.

So-called “NCR” Non-contact resistance.

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cf.: The described specifications & dimensions subject to change without notice.