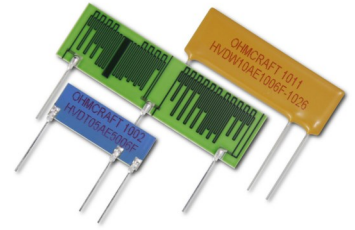


## Advantages

Our patented Micropen® precision printing technology provides superior precision, thick-film resistors.

- Voltage Ratings to 40,000 Volts
- Resistance Values to 2 TΩ
- Ratio Tolerances to 0.1%
- TCR to 25 ppm/°C
- TCR Tracking to 5 ppm/°C
- VCR to 0.05 ppm/V
- Very Low Noise
- Ultra High Stability
- Custom Configurations



## Electrical Specifications

| Case Size<br>Ratings      | TCR<br>(±ppm/°C) | Ratio Tolerance |           |          |          |          |          |           |           |          |
|---------------------------|------------------|-----------------|-----------|----------|----------|----------|----------|-----------|-----------|----------|
|                           |                  | 0.10%           | 0.25%     | 0.50%    | 1%       | 2%       | 5%       | 10%       | 20%       |          |
| <b>04</b><br>500mW<br>4kV | 25               | 1M-100M         | 1M-100M   | 1M-100M  | 1M-100M  | 1M-100M  | 1M-100M  | 1M-100M   | 1M-100M   | 1M-100M  |
|                           | 50               | 100K-100M       | 100K-100M | 100K-1G  | 100K-1G  | 100K-1G  | 100K-1G  | 100K-1G   | 100K-1G   | 100K-1G  |
|                           | 100              | 100K-100M       | 100K-100M | 100K-10G | 100K-10G | 100K-10G | 100K-50G | 100K-50G  | 100K-50G  | 100K-50G |
|                           | 200              | 100K-100M       | 100K-100M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-50G  | 100M-50G |
|                           | >200             | 100K-100M       | 100K-100M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-100G | 100M-1T  |
| <b>05</b><br>1W<br>5kV    | 25               | 1M-100M         | 1M-100M   | 1M-100M  | 1M-100M  | 1M-100M  | 1M-100M  | 1M-100M   | 1M-100M   | 1M-100M  |
|                           | 50               | 100K-100M       | 100K-100M | 100K-1G  | 100K-1G  | 100K-1G  | 100K-1G  | 100K-1G   | 100K-1G   | 100K-1G  |
|                           | 100              | 100K-100M       | 100K-100M | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G  | 100K-50G |
|                           | 200              | 100K-100M       | 100K-100M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-50G  | 100M-50G |
|                           | >200             | 100K-100M       | 100K-100M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-100G | 100M-1T  |
| <b>10</b><br>1W<br>10kV   | 25               | 1M-100M         | 1M-500M   | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M   | 1M-500M   | 1M-500M  |
|                           | 50               | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-10G | 100K-10G | 100K-10G  | 100K-10G  | 100K-10G |
|                           | 100              | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G  | 100K-50G |
|                           | 200              | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-50G  | 100M-50G |
|                           | >200             | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-100G | 100M-1T   | 100M-1T  |
| <b>20</b><br>2W<br>20kV   | 25               | 1M-100M         | 1M-500M   | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M   | 1M-500M   | 1M-500M  |
|                           | 50               | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-10G | 100K-10G | 100K-10G  | 100K-10G  | 100K-10G |
|                           | 100              | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G  | 100K-50G |
|                           | 200              | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-50G  | 100M-50G |
|                           | >200             | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-100G | 100M-1T   | 100M-1T  |
| <b>30</b><br>3W<br>30kV   | 25               | 1M-100M         | 1M-500M   | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M   | 1M-500M   | 1M-500M  |
|                           | 50               | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-10G | 100K-10G | 100K-10G  | 100K-10G  | 100K-10G |
|                           | 100              | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G  | 100K-50G |
|                           | 200              | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-50G  | 100M-50G |
|                           | >200             | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-100G | 100M-1T   | 100M-1T  |
| <b>40</b><br>6W<br>40kV   | 25               | 1M-100M         | 1M-500M   | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M  | 1M-500M   | 1M-500M   | 1M-500M  |
|                           | 50               | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-10G | 100K-10G | 100K-10G  | 100K-10G  | 100K-10G |
|                           | 100              | 100K-100M       | 100K-500M | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G  | 100K-50G |
|                           | 200              | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-50G  | 100M-50G  | 100M-50G |
|                           | >200             | 100K-100M       | 100K-500M | 100M-10G | 100M-50G | 100M-50G | 100M-50G | 100M-100G | 100M-1T   | 100M-1T  |

For custom sizes and configurations, contact [ohmcraftsales@exxelia.com](mailto:ohmcraftsales@exxelia.com).

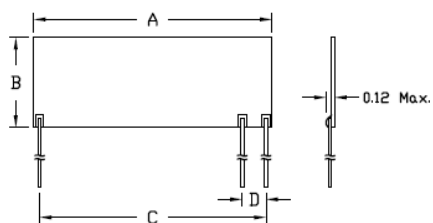
## How to Order

|                             |   |  |   |                                  |   |                                |   |   |   |  |   |   |  |  |
|-----------------------------|---|--|---|----------------------------------|---|--------------------------------|---|---|---|--|---|---|--|--|
| <b>HVD</b>                  | + |  | + |                                  | + |                                | + |   | + |  | + |   |  |  |
| <b>Type</b>                 |   | <b>Lead Style</b>  |   | <b>Case Size</b>                 |   | <b>Ratio</b>                   |   | <b>TCR</b>  |   | <b>R Total Value</b>   |   | <b>Ratio Tolerance</b>  |  | <b>Coating</b>                                       |
| Leaded High Voltage Divider |   | T Spade Terminal, 100% Tin RoHS<br>S Spade Terminal, Sn60Pb40 solder<br>W Wire, 22AWG 100% Tin RoHS<br>B Wire, 22AWG Sn60Pb40 solder |   | 04<br>05<br>10<br>20<br>30<br>40 |   | A 1000:1<br>B 100:1<br>C Other |   | <b>Absolute</b><br>E ±25ppm/°C<br>H ±50ppm/°C<br>K ±100ppm/°C<br>L ±200ppm/°C<br><b>OR</b><br><b>Tracking</b><br>W ±10ppm/°C<br>X ±15ppm/°C<br>Y ±25ppm/°C<br>Z ±50ppm/°C |   | Resistance value expressed as a four-digit number—where the first three numbers are the significant value, and the fourth number is the number of zeros. |   | B ±0.1%<br>C ±0.25%<br>D ±0.5%<br>F ±1.0%<br>G ±2.0%<br>J ±5.0%<br>K ±10%<br>L ±20% |  | 2 Bare<br>3 Powder Coating<br>4 Single Surface Epoxy |

Absolute tolerance is 15% (> 10GΩ 20%) unless otherwise specified.  
Ratio = (R1+R2)/R2  
When TCR Tracking is specified, the typical Absolute TCR is 100ppm/°C.



## Resistor Dimensions



Wire Leads: 22AWG (0.025"),  
1.3" typical length.

Spade Leads: 0.01" thick, 0.02" wide, 0.325" minimum length, standoff 0.06" max.

| Case Size | A (Length)                           | B (Height)                | C (Nominal)  | D (Nominal) | Units        |
|-----------|--------------------------------------|---------------------------|--------------|-------------|--------------|
| 04        | 0.5 +0.08/-0.03<br>12.7 +2.03/-0.76  | 0.375 ±0.03<br>9.53 ±0.76 | 0.4<br>10.16 | 0.2<br>5.08 | inches<br>mm |
| 05        | 1.0 +0.08/-0.03<br>25.4 +2.03/-0.76  | 0.375 ±0.03<br>9.53 ±0.76 | 0.9<br>22.86 | 0.2<br>5.08 | inches<br>mm |
| 10        | 1.5 +0.08/-0.03<br>38.1 +2.03/-0.76  | 0.5 ±0.03<br>12.7 ±0.76   | 1.3<br>33.02 | 0.2<br>5.08 | inches<br>mm |
| 20        | 2.0 +0.08/-0.03<br>50.8 +2.03/-0.76  | 0.75 ±0.03<br>19.05 ±0.76 | 1.9<br>48.26 | 0.2<br>5.08 | inches<br>mm |
| 30        | 3.0 +0.08/-0.03<br>76.2 +2.03/-0.76  | 0.75 ±0.03<br>19.05 ±0.76 | 2.9<br>73.66 | 0.2<br>5.08 | inches<br>mm |
| 40        | 4.0 +0.08/-0.03<br>101.6 +2.03/-0.76 | 0.75 ±0.03<br>19.05 ±0.76 | 3.9<br>99.06 | 0.2<br>5.08 | inches<br>mm |

For custom case sizes, contact [ohmcraftsales@exxelia.com](mailto:ohmcraftsales@exxelia.com).

## Typical Performance Characteristics

| Test                         | Maximum ΔR |
|------------------------------|------------|
| Short Time Overload          | 0.1%       |
| Load Life                    | 0.1%       |
| Thermal Shock                | 0.1%       |
| Shock                        | 0.05%      |
| Vibration                    | 0.05%      |
| Resistance to Soldering Heat | 0.05%      |

| Parameter             | Typical   |
|-----------------------|---|
| Operating Temperature | -55°C to 150°C  |
| TCR                   | Measured from 25°C to 75°C  |
| Resistance Value      | Value > 10M are measured at 100 VDC<br>For custom test voltages consult factory |

## Material Construction

- Substrate** 96% Alumina
- Coatings** All resistors are glass encapsulated with optional single side epoxy or powder coating.

## Custom Selections Available Upon Request

Please consult with our knowledgeable sales staff for help specifying custom parts to meet your needs:

E: [ohmcraftsales@exxelia.com](mailto:ohmcraftsales@exxelia.com)

P: 585.624.2610

[www.ohmcraft.com](http://www.ohmcraft.com)

93 Paper Mill St.

Honeoye Falls, NY 14472

## Power Derating Curve

