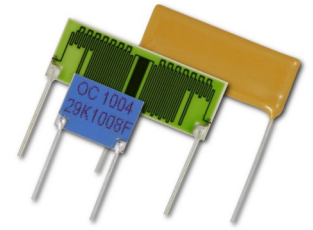


### Advantages

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

- Voltage Ratings to 40,000 Volts
- Resistance Values to 4 TΩ
- Ultra High Stability
- Very Low Noise
- Tolerances to 0.1%
- TCR to 25 ppm/°C
- VCR to 0.05 ppm/V
- Custom Configurations



### Electrical Specifications

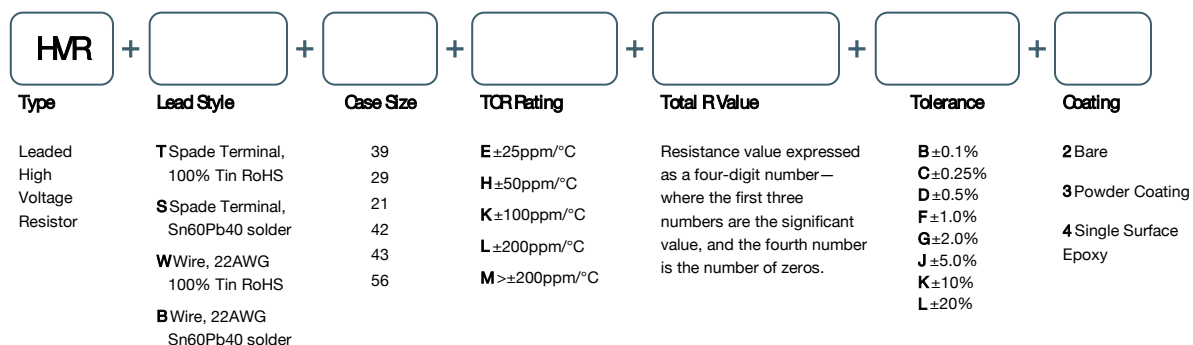
| Case Size<br>Ratings | TCR<br>(±ppm/°C) | Tolerance |           |          |          |          |          |           |          |          |
|----------------------|------------------|-----------|-----------|----------|----------|----------|----------|-----------|----------|----------|
|                      |                  | 0.10%     | 0.25%     | 0.50%    | 1%       | 2%       | 5%       | 10%       | 20%      |          |
| 39<br>500mW<br>2kV   | 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 | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G | 100K-50G |
| 29<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 | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G | 100K-50G |
| 21<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 | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G | 100K-50G |
| 42<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 | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G | 100K-50G |
| 43<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 | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G | 100K-50G |
| 56<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 | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-50G  | 100K-50G | 100K-50G |
|                      | >200             | 100K-100M | 100K-500M | 100K-10G | 100K-10G | 100K-50G | 100K-50G | 100K-100G | 100K-1T  | 100K-1T  |

The continuous maximum applied voltage cannot exceed the maximum power rating and is ohmic value dependent.

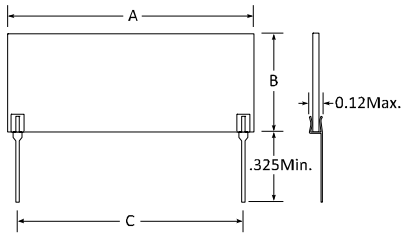
Value range is case size dependent.

For custom sizes and configurations, consult factory.

### How to Order



## 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 (Lead Spacing) | Units  |
|-----------|-------------------|-------------|------------------|--------|
| 39        | 0.3 +0.08/-0.03   | 0.4 ±0.03   | 0.2              | inches |
|           | 7.62 +2.03/-0.76  | 10.16 ±0.76 | 5.08             | mm     |
| 29        | 0.5 +0.08/-0.03   | 0.375 ±0.03 | 0.4              | inches |
|           | 12.7 +2.03/-0.76  | 9.53 ±0.76  | 10.16            | mm     |
| 21        | 1.0 +0.08/-0.03   | 0.375 ±0.03 | 0.9              | inches |
|           | 25.4 +2.03/-0.76  | 9.53 ±0.76  | 22.86            | mm     |
| 42        | 2.0 +0.08/-0.03   | 0.5 ±0.03   | 1.9              | inches |
|           | 50.8 +2.03/-0.76  | 12.7 ±0.76  | 48.26            | mm     |
| 43        | 3.0 +0.08/-0.03   | 0.5 ±0.03   | 2.9              | inches |
|           | 76.2 +2.03/-0.76  | 12.7 ±0.76  | 73.66            | mm     |
| 56        | 4.0 +0.08/-0.03   | 0.75 ±0.03  | 3.9              | inches |
|           | 101.6 +2.03/-0.76 | 19.05 ±0.76 | 99.06            | mm     |

For custom case sizes, consult factory.

## Typical Performance Characteristics

| Test                            | Maximum ΔR |
|---------------------------------|------------|
| Short Time Overload             | 0.1%       |
| Load Life                       | 0.1%       |
| Temperature Cycle               | 0.1%       |
| Moisture Resistance             | 0.1%       |
| Shock                           | 0.05%      |
| Vibration                       | 0.05%      |
| Dielectric Withstanding Voltage | 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      | Values > 10M are measured at 100 VDC<br>For custom test voltages consult factory |

## Material Construction

|                  |   |
|------------------|---|
| <b>Substrate</b> | 96% Alumina   |
| <b>Coatings</b>  | 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: [sales@ohmcraft.com](mailto:sales@ohmcraft.com)  
P: 585.624.2610  
[www.ohmcraft.com](http://www.ohmcraft.com)  
93 Paper Mill St.  
Honeoye Falls, NY 14472

## Power Derating Curve

