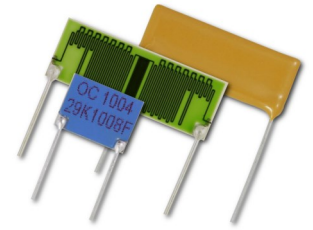


### Advantages

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

- Voltage Ratings to 40,000 Volts
- Resistance Values to 4,000 Gigohms
- 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 Ratings	TCR (±ppm/°C)	Tolerance								
		0.10%	0.25%	0.50%	1%	2%	5%	10%	20%	
39 500mW 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-50G	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 500mW 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-50G	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 1W 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 2W 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 3W 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 6W 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.

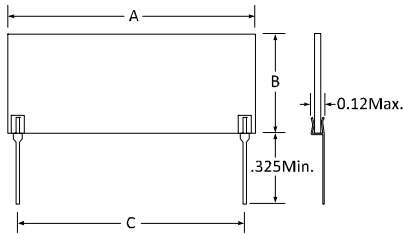
For parts below 100K, consult factory.

For custom case sizes, consult factory.

### How to Order

<b>HVR</b>	+		+		+		+		+		+	
<b>Type</b>		<b>Lead Style</b>		<b>Case Size</b>		<b>TCR Rating</b>		<b>Total R Value</b>		<b>Tolerance</b>		<b>Coating</b>
Leaded High Voltage Resistor		<b>T</b> Spade Terminal, 100% Tin RoHS		39		<b>E</b> ±25ppm/°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>B</b> ±0.1% <b>C</b> ±0.25% <b>D</b> ±0.5% <b>F</b> ±1.0% <b>G</b> ±2.0% <b>J</b> ±5.0% <b>K</b> ±10% <b>L</b> ±20%		<b>2</b> Bare <b>3</b> Powder Coating <b>4</b> Single Surface Epoxy
		<b>S</b> Spade Terminal, Sn60Pb40 solder		29		<b>H</b> ±50ppm/°C						
		<b>W</b> Wire, 22AWG 100% Tin RoHS		21		<b>K</b> ±100ppm/°C						
		<b>B</b> Wire, 22AWG Sn60Pb40 solder		42		<b>L</b> ±200ppm/°C						
				43		<b>M</b> >±200ppm/°C						
				56								

## 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	Measured at 100V 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:

Ph: 585.624.2610  
www.ohmcraft.com  
93 Paper Mill St.  
Honeoye Falls, NY 14472  
ocsales@micropen.com

## Power Derating Curve

