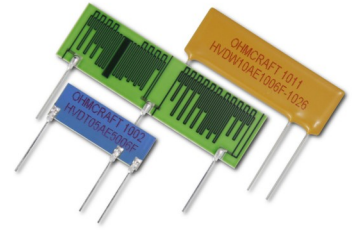


### Advantages

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

Tolerance and value are case size dependent. Absolute tolerance is 15% unless otherwise specified.

$$\text{Ratio} = (R1+R2)/R2$$

TCR tracking is typically < 25°C ppm/°C.

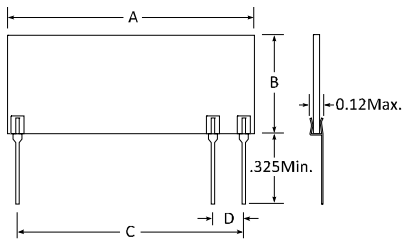
For custom sizes and configurations, consult factory.

### How to Order

<b>HMD</b>	+		+		+		+		+		+			
<b>Type</b>		<b>Lead Style</b>		<b>Case Size</b>		<b>Ratio</b>		<b>Absolute TCR</b>		<b>R Total Value</b>		<b>Ratio Tolerance</b>		<b>Coating</b>
Leaded		T Spade Terminal, 100% Tin RoHS		04		A 1000:1		E ±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 ±0.1%		2 Bare
High				05								C ±0.25%		
Voltage		S Spade Terminal, Sn60Pb40 solder		10		B 100:1		H ±50ppm/°C				D ±0.5%		3 Powder Coating
Divider		W Wire, 22AWG 100% Tin RoHS		20		C Other		K ±100ppm/°C				F ±1.0%		
				30				L ±200ppm/°C				G ±2.0%		
		B Wire, 22AWG Sn60Pb40 solder		40				M >±200ppm/°C				J ±5.0%		4 Single Surface Epoxy
												K ±10%		
												L ±20%		



## 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 12.7 +2.03/-0.76	0.375 ±0.03 9.53 ±0.76	0.4 10.16	0.2 5.08	inches mm
05	1.0 +0.08/-0.03 25.4 +2.03/-0.76	0.375 ±0.03 9.53 ±0.76	0.9 22.86	0.2 5.08	inches mm
10	1.5 +0.08/-0.03 38.1 +2.03/-0.76	0.5 ±0.03 12.7 ±0.76	1.3 33.02	0.2 5.08	inches mm
20	2.0 +0.08/-0.03 50.8 +2.03/-0.76	0.75 ±0.03 19.05 ±0.76	1.9 48.26	0.2 5.08	inches mm
30	3.0 +0.08/-0.03 76.2 +2.03/-0.76	0.75 ±0.03 19.05 ±0.76	2.9 73.66	0.2 5.08	inches mm
40	4.0 +0.08/-0.03 101.6 +2.03/-0.76	0.75 ±0.03 19.05 ±0.76	3.9 99.06	0.2 5.08	inches 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	Value > 10M are measured at 100 VDC 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

