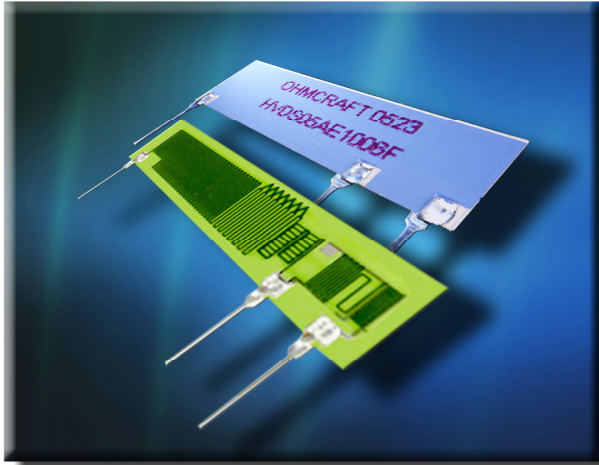


# HVD Series

## High Voltage Leaded Resistor Dividers



Ohmcraft's fine line, thick film patterning technology, provides high level of performance and stability in leaded resistors dividers.



- ◆ Ohmic Values to 2,000 Gigohms
- ◆ Voltage Ratings to 40,000 Volts
- ◆ Ultra High stability
- ◆ Tight Ratio Tolerances ( to 0.1% )
- ◆ Very Low noise
- ◆ Low TCR ( to 10 ppm/°C )
- ◆ Low TCR Tracking ( to 5 ppm/°C )
- ◆ Low VCR ( to 0.05 ppm/Volt )
- ◆ Custom Configurations

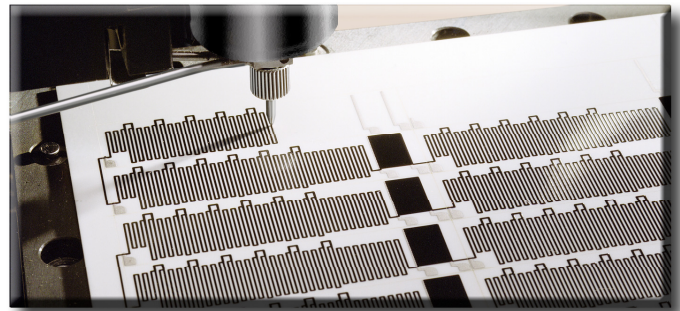
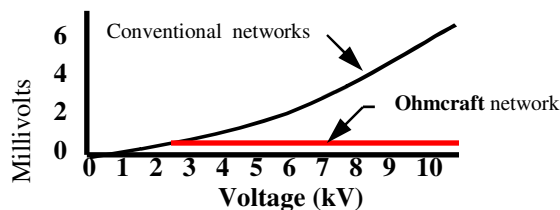
The usual technologies for manufacturing resistors depend upon composite materials that have limitations. Traditional thick-film process methods limit performance characteristics and thin-film methods are limited in attainable ohmic values. **Ohmcraft's** fine line patterning offers the best characteristics of both methods, plus adds many unique features. **Ohmcraft's** resistors feature a longer, high-aspect ratio trace of lower resistivity film. The combination of long line, high-aspect ratio, and higher conductivity film, give **Ohmcraft** resistors

unmatched design efficiency, versatility, linearity, stability and low noise. The **Ohmcraft** fine line patterning methods allow control of process parameters to very tight tolerances. The result is dividers with outstanding tracking performance over a wide range of temperature, voltage and ohmic values.

Surface mount and wire bondable chip resistors are manufactured using the same fine line patterning technologies. For additional information on those products, please refer to the appropriate data sheets.

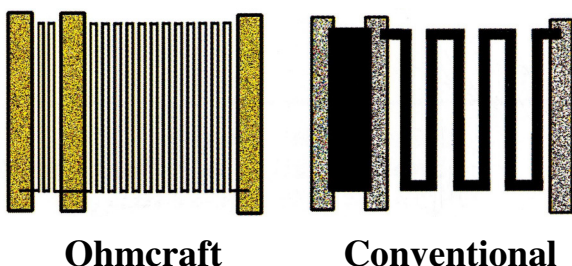
### Excellent VCR Tracking

The low resistivity composition of **Ohmcraft** resistors is significantly better than conventional designs. They have a virtually flat VCR over a wide range of values.



Writing resistors using Micropen™ technology

### Divider Design



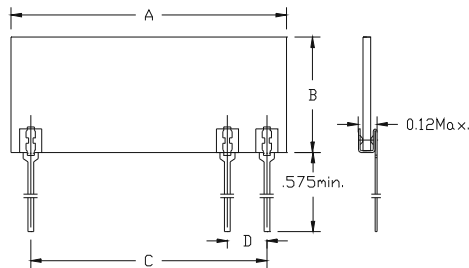
### Design Flexibility

The long serpentine pattern used in manufacturing Ohmcraft High Voltage Dividers (HVDs), coupled with the use of low ohms/square thick film inks, makes it possible to create virtually any divider ratio. For example, Ohmcraft has produced 800 meg-ohm dividers with a 20,000:1 ratio. What are your needs?

Low noise, low TCR, low VCR, and many other features add up to the finest leaded divider in the market today.

## Standard HVD Ratings & Dimensions

Case Size	Power @ 25°C (watts)	Maximum Voltage Rating	Ratio Tolerance (%)	Dimensions (inches)			
				A (-.030/+0.080)	B (±.030)	C (Nominal)	D (Nominal)
04	.5	4 kV	0.10 - 1	.5	.375	0.4	.2
05	1	5 kV	0.10 - 1	1	.375	0.9	.2
10	1	10 kV	0.25 - 1	1.5	.5	1.3	.2
20	2	20 kV	0.25 - 0.5	2	.75	1.9	.2
30	3	30 kV	0.5 - 5	3	.75	2.9	.2
40	6	40 kV	0.5 - 5	4	.75	3.9	.2



- ◆ Spade Leads Sn63Pb37 solder or Tin coated: 10 mils thick, 20 mils wide. 0.4" Nominal Length. Optional Wire Leads: #22AWG (0.025") Tinned Copper 1.3" Nominal Length. Stand Off: 0.060" Max.
- ◆ Parts are epoxy coated on the top side only. Optional powder coating is available on tolerances greater than 0.5%.

## How to build a part number....

Type	Lead Style	Case Size	Ratio	Absolute <sup>1</sup> TCR	Total R Value	Ratio <sup>2</sup> Tolerance
<b>HVD</b>						
Leaded High Voltage Divider	T=Terminal Pb free S= Terminal Sn60Pb40 solder W=Wire	See table above	A=1000:1 B=100:1 C=Other	E=± 25ppm/°C H=± 50ppm/°C K=± 100ppm/°C L=± 200ppm/°C	Express value as a four digit number where the first three numbers are the significant value, and the forth number is the number of zeros	B = ± 0.1 % C = ± 0.25 % D = ± 0.5 % F = ± 1.0 % G = ± 2.0 % J = ± 5.0 %

Note 1: TCR Tracking is typically < 25% of the Absolute TCR to a minimum of 10ppm/°C  
 Note 2: The Absolute Tolerance is 15% unless otherwise specified.

**Example:** For a 10 Megohm, 100:1 divider, with wire leads, a 20KV rating, a TCR rating of 50 ppm/°C, and an ratio tolerance rating of 1.0%; the part number will be:

HVDW20BH1005F



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