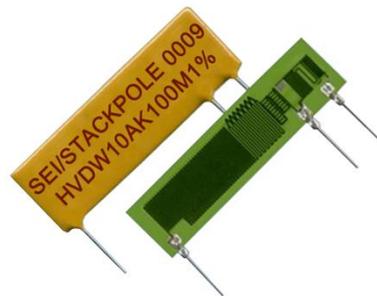


Features:

- Ohmic values to 2000G
- Voltage ratings to 40KV
- Ultra-high stability
- Tight tolerances to 0.1%
- Very low noise
- Low TCR to 25 ppm/°C
- Absolute tolerance typically ± 15%
- Resistance ratio = (R1 + R2) / R2 where R1 > R2
- The resistance value = the total resistance value of the part (R1 + R2)
- Custom solutions available
- RoHS compliant, REACH compliant, lead free, and halogen free



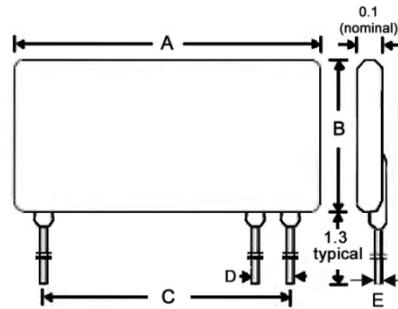
Utilizing fine film resistor deposition technology, Stackpole now offers a new level of stability and performance in leaded resistor dividers. Competing product technologies have constraints due to their dependence on certain limiting composite materials. Traditional thick film products have restricted performance characteristics, while thin film offerings are confined within certain Ohmic value ranges.

In addition to improving on these limitations, the fine film deposition demonstrates new characteristics, such as a longer high-aspect ratio trace of lower resistivity film.

These fine film resistor dividers provide unique design efficiency, versatility and linearity, through the combination of long line, high aspect ratio and higher conductivity film.

| Electrical Specifications | | | | | | | |
|---------------------------|--------------------------|-----------------------------|--------------|-------------------------------------|-------------|------------|------------------------|
| Case Size | Power Rating (W) @ 25 °C | Maximum Voltage Rating (KV) | TCR (ppm/°C) | Ohmic Range (Ω) and Ratio Tolerance | | | |
| | | | | 0.1% | 0.25% | 0.5% | 1% 2%, 5%, 10%, 20% |
| HVD...04 | 0.5 | 4 | ± 25 | 1M - 100M | | | |
| | | | ± 50 | 100K - 100M | 100K - 1G | | |
| | | | ± 100 | 100K - 100M | 100K - 10G | 100K - 50G | |
| | | | ± 200 | 100K - 100M | 100M - 10G | 100M - 50G | |
| HVD...05 | 1 | 5 | ± 25 | 1M - 100M | | | |
| | | | ± 50 | 100K - 100M | 100K - 1G | | |
| | | | ± 100 | 100K - 100M | 100K - 10G | 100K - 50G | |
| | | | ± 200 | 100K - 100M | 100M - 10G | 100M - 50G | |
| HVD...10 | 1 | 10 | ± 25 | 1M - 100M | 1M - 500M | | |
| | | | ± 50 | 100K - 100M | 100K - 500M | 100K - 10G | |
| | | | ± 100 | 100K - 100M | 100K - 500M | 100K - 10G | 100K - 50G |
| | | | ± 200 | 100K - 100M | 100K - 100M | 100M - 10G | 100M - 50G |
| HVD...20 | 2 | 20 | ± 25 | 1M - 100M | 1M - 500M | | |
| | | | ± 50 | 100K - 100M | 100K - 500M | 100K - 10G | |
| | | | ± 100 | 100K - 100M | 100K - 500M | 100K - 10G | 100K - 50G |
| | | | ± 200 | 100K - 100M | 100K - 100M | 100M - 10G | 100M - 50G |
| HVD...30 | 3 | 30 | ± 25 | 1M - 100M | 1M - 500M | | |
| | | | ± 50 | 100K - 100M | 100K - 500M | 100K - 10G | |
| | | | ± 100 | 100K - 100M | 100K - 500M | 100K - 10G | 100K - 50G |
| | | | ± 200 | 100K - 100M | 100K - 100M | 100M - 10G | 100M - 50G |
| HVD...40 | 6 | 40 | ± 25 | 1M - 100M | 1M - 500M | | |
| | | | ± 50 | 100K - 100M | 100K - 500M | 100K - 10G | |
| | | | ± 100 | 100K - 100M | 100K - 500M | 100K - 10G | 100K - 50G |
| | | | ± 200 | 100K - 100M | 100K - 100M | 100M - 10G | 100M - 50G |

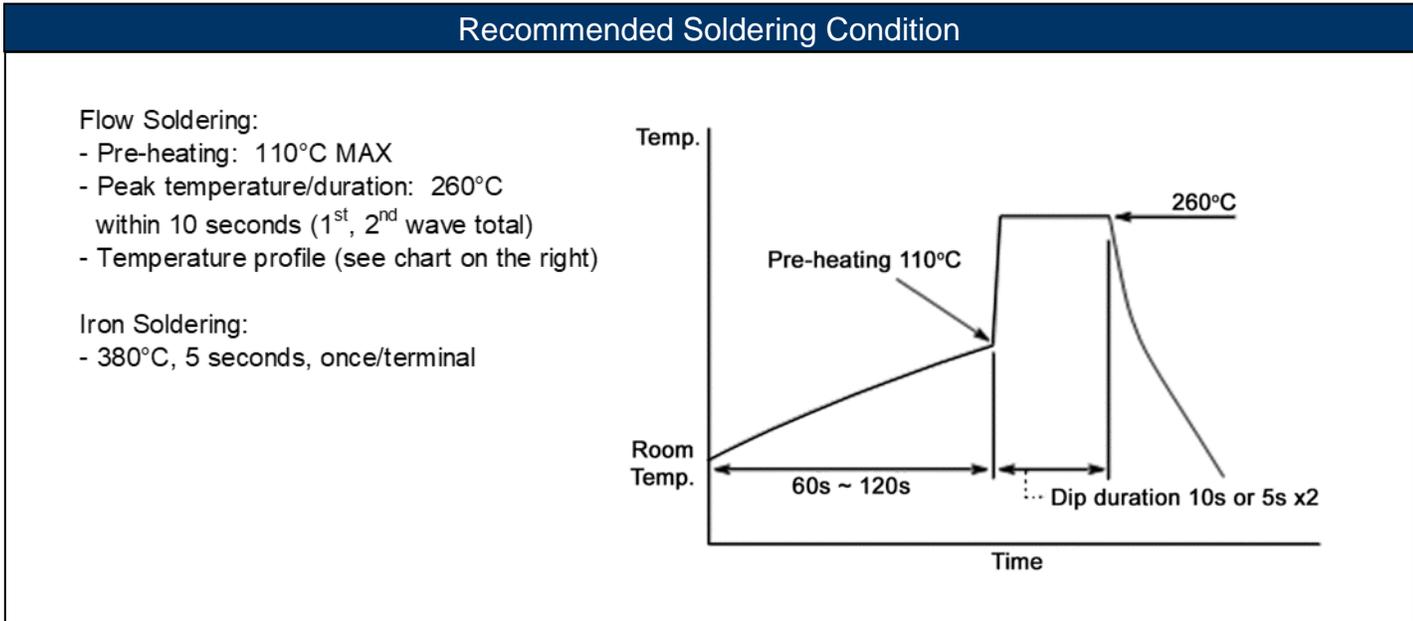
Mechanical Characteristics



| Case Size | A | B | C | D | E | Unit |
|-----------|---------------|---------------|-------|-------|-------|--------|
| HVD...04 | 0.500 ± 0.080 | 0.375 ± 0.030 | 0.400 | 0.200 | 0.025 | inches |
| | 12.70 ± 2.03 | 9.53 ± 0.76 | 10.16 | 5.08 | 0.644 | mm |
| HVD...05 | 1.000 ± 0.080 | 0.375 ± 0.030 | 0.900 | 0.200 | 0.025 | inches |
| | 25.40 ± 2.03 | 9.53 ± 0.76 | 22.86 | 5.08 | 0.644 | mm |
| HVD...10 | 1.500 ± 0.080 | 0.500 ± 0.030 | 1.300 | 0.200 | 0.025 | inches |
| | 38.10 ± 2.03 | 12.70 ± 0.76 | 33.02 | 5.08 | 0.644 | mm |
| HVD...20 | 2.000 ± 0.080 | 0.750 ± 0.030 | 1.900 | 0.200 | 0.025 | inches |
| | 50.80 ± 2.03 | 19.05 ± 0.76 | 48.26 | 5.08 | 0.644 | mm |
| HVD...30 | 3.000 ± 0.080 | 0.750 ± 0.030 | 2.900 | 0.200 | 0.025 | inches |
| | 76.20 ± 2.03 | 19.05 ± 0.76 | 73.66 | 5.08 | 0.644 | mm |
| HVD...40 | 4.000 ± 0.080 | 0.750 ± 0.030 | 3.900 | 0.200 | 0.025 | inches |
| | 101.60 ± 2.03 | 19.05 ± 0.76 | 99.06 | 5.08 | 0.644 | mm |

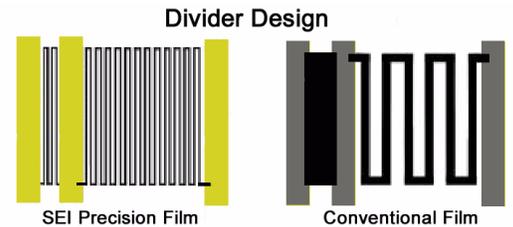
Performance Characteristics

| 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 (consult Stackpole for custom test voltages) |



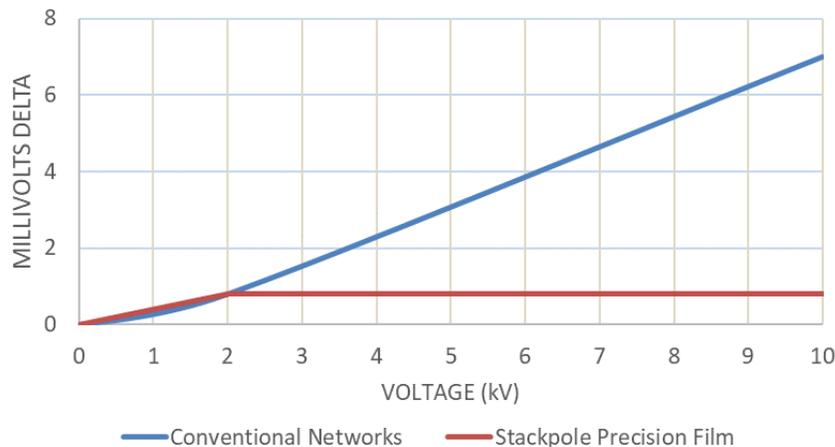
Design Flexibility

The HVD series can accommodate virtually any divider ratio due to the long serpentine pattern in the fine film manufacturing, combined with the utilization of low ohms/square thick film inks. Please contact SEI with custom design needs.



Excellent VCR Tracking:

The VCR is virtually flat over a wide range of values.



RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union’s directive regarding “Restrictions on Hazardous Substances” (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

| RoHS Compliance Status | | | | | | |
|-------------------------|---------------------------------------|----------------------------|--------------------------------|-----------------------------------|--|---------------------------------------|
| Standard Product Series | Description | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| HVD | High Voltage Leaded Resistor Dividers | Radial Special | YES | 96.3/3.7 Sn/Ag | Always | Always |

“Conflict Metals” Commitment

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

Compliance to “REACH”

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

Environmental Policy

It is the policy of Stackpole Electronics, Inc. to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order

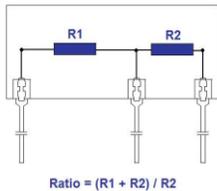
H V D W 0 4 A E 2 0 0 5 B

| Product Series | | Lead Style | | Power Rating | | Ratio ⁽³⁾ | | Absolute TCR ⁽¹⁾ | | Total R Value ⁽²⁾⁽⁴⁾ | Ratio Tolerance | |
|----------------|-------------------------------------|------------|-------------|--------------|-----|----------------------|-------------|-----------------------------|--------------|---------------------------------|-----------------|-------------|
| Code | Description | Code | Description | Size | W | Code | Description | Code | TCR (ppm/°C) | 2005 | Code | Description |
| HVD | High Voltage Plate Resistor Divider | S | Spade | 04 | 0.5 | A | 1,000:1 | E | ± 25 | | B | ± 0.1% |
| | | W | Wire | 05 | 1 | B | 100:1 | C | ± 50 | | C | ± 0.25% |
| | | | | 10 | 1 | C | Other | D | ± 100 | | D | ± 0.5% |
| | | | | 20 | 2 | | | L | ± 200 | | F | ± 1% |
| | | | | 30 | 3 | | | | | | G | ± 2% |
| | | | | 40 | 6 | | | | | | J | ± 5% |
| | | | | | | | | | | | K | ± 10% |
| | | | | | | | | | | | M | ± 20% |

Note (1): TCR tracking typically < 25% of the absolute TCR to a minimum of 10 ppm/°C

Note (2): Express value as a four digit number, the first three numbers are the significant value and the fourth number is the number of zeros

Note (3): Resistance ratio = (R1 + R2) / R2 where R1 > R2



Note (4): The resistance value = the total resistance value of the part (R1 + R2)

Note (5): Parts come in bulk packaging. MOQ = 50 pieces.