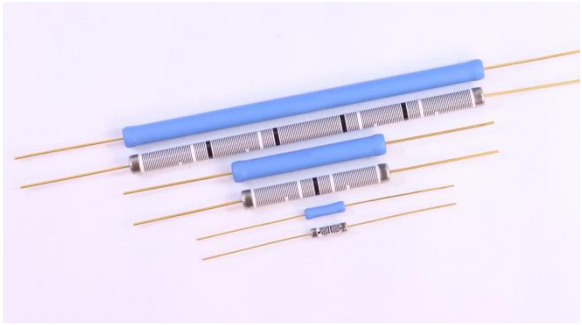
HVAM Series

Precision High Voltage Leaded Resistor

Stackpole Electronics, Inc.
Resistive Product Solutions



Features:

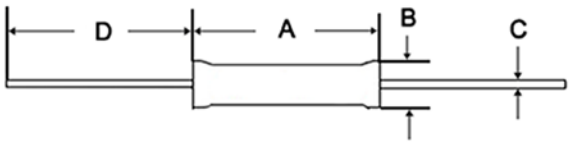
- Ultra-high stability
- Very low noise
- Voltage ratings to 50,000V
- Tolerances to 0.1%
- Resistance values to 10 Gigohms
- TCR to 50 ppm/ºC
- VCR to 0.1 ppm/V
- Non-inductive
- 100% RoHS compliant and lead free without exemption
- Halogen free
- REACH compliant

Electrical Specifications

Type/Code	Power Rating (W)	Maximum Working Voltage (V) (*)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance		
				0.1%	0.25%	0.5%, 1%, 2%, 5%, 10%, 20%
HVAM20	2	15000	±50 ppm/ºC ±100 ppm/ºC	500K - 100M	500K - 500M	500K - 2G
HVAM36	3.6	15000				
HVAM50	5	20000				500K - 4G
HVAM75	7.5	30000				500K - 6G
HVAM100	10	50000				500K - 10G

(*) Rated voltage = √Power Rating x Nominal Resistance or Maximum Working voltage, whichever is lower.
For parts below 500 K ohms, consult Stackpole Electronics.

Mechanical Specifications



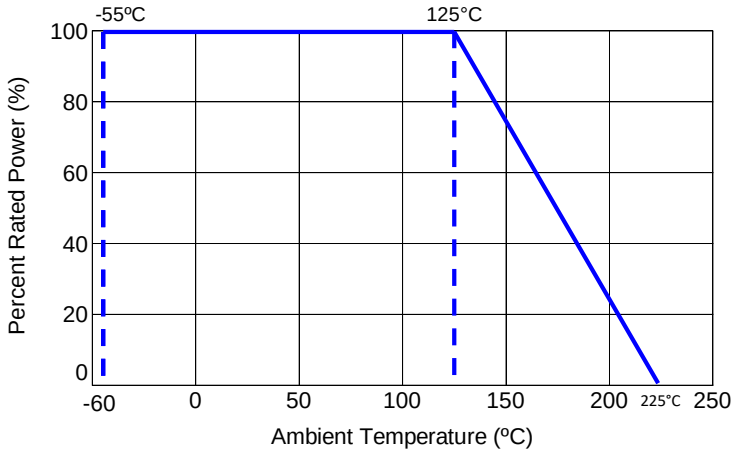
Type/Code	A Body Length	B Body Diameter	C Lead Diameter	D Lead Length	Unit
HVAM20	1.500 ± 0.030 38.10 ± 0.76	0.180 ± 0.015 4.57 ± 0.38	0.025 ± 0.020 0.64 ± 0.50	1.500 ± 0.125 38.10 ± 3.18	inches mm
HVAM36	1.500 ± 0.030 38.10 ± 0.76	0.310 ± 0.015 7.87 ± 0.38	0.040 ± 0.020 1.02 ± 0.50	1.500 ± 0.125 38.10 ± 3.18	inches mm
HVAM50	2.125 ± 0.030 53.98 ± 0.76	0.310 ± 0.015 7.87 ± 0.38	0.040 ± 0.020 1.02 ± 0.50	1.500 ± 0.125 38.10 ± 3.18	inches mm
HVAM75	3.125 ± 0.030 79.38 ± 0.76	0.310 ± 0.015 7.87 ± 0.38	0.040 ± 0.020 1.02 ± 0.50	1.500 ± 0.125 38.10 ± 3.18	inches mm
HVAM100	5.000 ± 0.030 127.00 ± 0.76	0.310 ± 0.015 7.87 ± 0.38	0.040 ± 0.020 1.02 ± 0.50	1.500 ± 0.125 38.10 ± 3.18	inches mm

Performance Characteristics

Test	Test Specification
Short Term Overload/Overvoltage	ΔR 0.5% max.
Thermal Shock	ΔR 0.25% max.
Moisture Resistance	ΔR 0.4% max.
Load Life (1000 hours)	ΔR 0.5% max.
Insulation Resistance	10,000 Megohms min.

Operating Temperature Range: -55°C to 225°C
Temperature Coefficient: Measured from 25°C to 75°C

Power Derating Curve:



Recommended Solder Profile

This information is intended as a reference for solder profiles for Stackpole resistive components. These profiles should be compatible with most soldering processes. These are only recommendations. Actual numbers will depend on board density, geometry, packages used, etc., especially those cells labeled with "*".

100% Matte Tin / RoHS Compliant Terminations

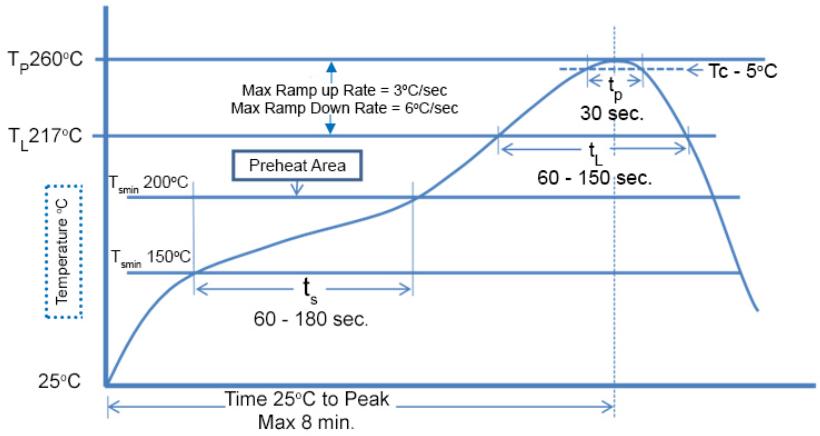
Soldering iron recommended temperatures: 330°C to 350°C with minimum duration.
Maximum number of reflow cycles: 3.

Wave Soldering			
Description	Maximum	Recommended	Minimum
Preheat Time	80 seconds	70 seconds	60 seconds
Temperature Diff.	140°C	120°C	100°C
Solder Temp.	260°C	250°C	240°C
Dwell Time at Max.	10 seconds	5 seconds	*
Ramp DN (°C/sec)	N/A	N/A	N/A

Temperature Diff. = Defference between final preheat stage and soldering stage.

Convection IR Reflow			
Description	Maximum	Recommended	Minimum
Ramp Up (°C/sec)	3°C/sec	2°C/sec	*
Dwell Time > 217°C	150 seconds	90 seconds	60 seconds
Solder Temp.	260°C	245°C	*
Dwell Time at Max.	30 seconds	15 seconds	10 seconds
Ramp DN (°C/sec)	6°C/sec	3°C/sec	*

Recommended Lead Free Resistor Reflow Profile



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
HVAM	Precision High Voltage Leaded Resistor	Axial	YES	100% Matte Sn	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. (SEI) 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	A	M	5	0	D	B	C	5	0	0	K

Product Series

Code	Description
HVAM	Precision High Voltage Leaded Resistor

Power Rating

Size	W
20	2
36	3.6
50	5
75	7.5
100	10

Tolerance

Code	Tol	Value
B	0.1%	E24 E96
C	0.25%	
D	0.5%	
F	1%	
G	2%	
J	5%	
K	10%	
M	20%	

Packaging

Code	Description	Size	Quantity
B	Bulk	20, 36, 50	25
		75, 100	10

TCR

Code	ppm/ºC
C	50
D	100

Resistance Value

Four characters with the multiplier used as the decimal holder.

500K = 500 K Ohm
1M00 = 10 Meg Ohm
100M = 100 Meg Ohm
1G00 = 1 Gig Ohm