

HVCR Series

High Voltage Low VCR (100% VCR Screened) Chip Resistor

Stackpole Electronics, Inc.

Resistive Product Solutions

Features:

- 100% VCR tested for guaranteed VCR performance
- Utilizes fine film resistor deposition technology
- Superior high voltage pulse handling
- Low noise
- High stability
- RoHS compliant, REACH compliant, and halogen free



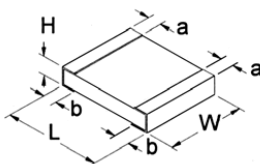
Electrical Specifications

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage (V)	TCR (ppm/°C)	VCR (ppm/V)	Ohmic Values (Ω) and Tolerance
					1%
HVCR1206	0.33	1500	± 100	-5	10 M, 100 M
HVCR2512	2	3000		-2	10 M, 100 M

Proper terminal isolation is required to achieve the voltage ratings for each given size.

Note: Other sizes and resistance values may be available.

Mechanical Specifications



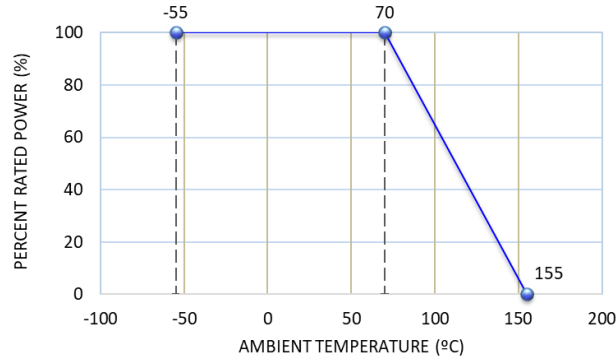
Type/Code	L Body Length	W Body Width	H Body Height (Max.)	a Top Termination	b Bottom Termination	Unit
HVCR1206	0.126 \pm 0.01	0.063 \pm 0.005	0.030	0.010 \pm 0.005	0.020 \pm 0.010	inches
	3.20 \pm 0.25	1.60 \pm 0.13	0.76	0.25 \pm 0.13	0.51 \pm 0.25	mm
HVCR2512	0.250 \pm 0.01	0.125 \pm 0.005	0.030	0.020 \pm 0.010	0.024 \pm 0.010	inches
	6.35 \pm 0.25	3.18 \pm 0.13	0.76	0.51 \pm 0.25	0.61 \pm 0.25	mm

Performance Characteristics

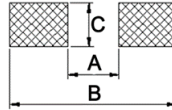
Test	Typical Performance
Short Time Overload	0.1%
Load Life	0.1%
Temperature Cycle	0.1%
Moisture Resistance	0.1%
Shock	0.05%
Vibration	0.05%
Dielectric Withstanding Voltage	0.05%
Resistance to Soldering Heat	0.05%
Parameter	Typical
TCR	measured from 25 to 75°C
Pulse Capability	10X rated wattage Consult Stackpole for custom pulse applications
Resistance Value	Measured at 100 V Consult Stackpole for custom test voltages

Operating temperature range is -55 to +155°C

Power Derating Curve:



Recommended Pad Layouts



Type/Code	A	B	C	Unit
HVCR1206	0.087	0.165	0.063	inches
	2.20	4.20	1.60	mm
HVCR2512	0.193	0.315	0.138	inches
	4.90	8.00	3.50	mm

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 to 350°C with minimum duration.

Maximum number of reflow cycles: 3.

Wave Soldering

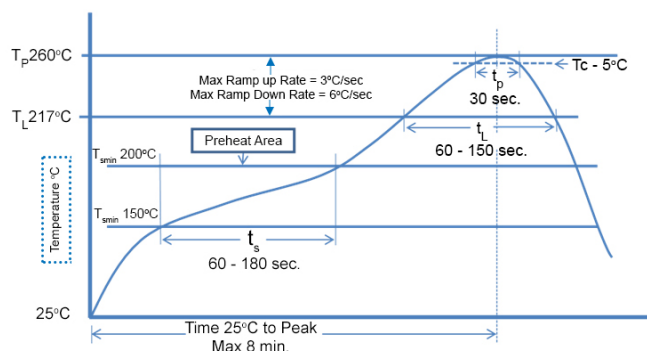
Description	Maximum	Recommended	Minimum
Preheat Time	80 seconds	70 seconds	60 seconds
Temperature Diff.	140°C	120°C	100°C
Solder Temp.	260°C	250°C	240°C
Dwell Time at Max	10 seconds	5 seconds	*
Ramp DN (°C/sec)	N/A	N/A	N/A

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

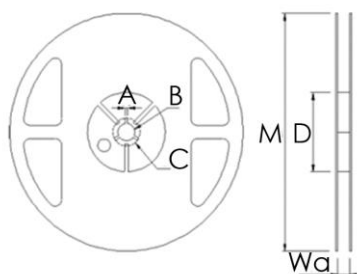
Convection IR Reflow

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

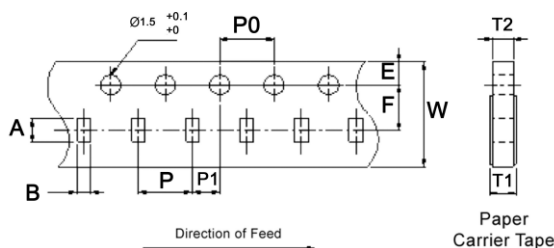


Reel Specifications



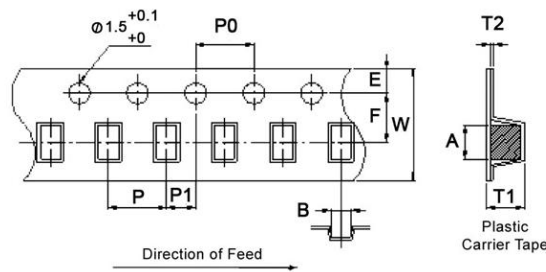
Reel Type	Wa	M	A	B	C	D	Unit
7" reel for 8 mm tape	0.354 ± 0.020 9.00 ± 0.50	7.008 ± 0.079 178.00 ± 2.00	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.020 13.50 ± 0.50	0.827 ± 0.020 21.00 ± 0.50	2.362 ± 0.039 60.00 ± 1.00	inches mm

Packaging Specifications – Paper Tape



Type/Code	7" Reel Quantity	Typical Nominal Full Reel Weight (g)	Tape Width	A	B	W	E	Unit
HVCR1206	1000	151.4	0.315 8.00	0.140 ± 0.010 3.55 ± 0.25	0.077 ± 0.010 1.95 ± 0.25	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	inches mm
Type/Code	F	T1	T2	P	P0	P1	Unit	
HVCR1206	0.138 ± 0.002 3.50 ± 0.05	0.030 ± 0.008 0.75 ± 0.20	0.030 ± 0.004 0.75 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	inches mm	

Packaging Specifications – Plastic Tape



Type/Code	7" Reel Quantity	Typical Nominal Full Reel Weight (g)	Tape Width	A	B	W	E	Unit
HVC2512	1000	255.3	0.472 12.00	0.264 ± 0.008 6.70 ± 0.20	0.134 ± 0.008 3.40 ± 0.20	0.472 ± 0.008 12.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	inches mm
Type/Code	F	T1	T2	P	P0	P1	Unit	
HVC2512	0.217 ± 0.002 5.50 ± 0.05	0.041 ± 0.008 1.05 ± 0.20	0.009 ± 0.006 0.23 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	inches mm	

Part Marking

Parts are unmarked.

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)
HVCR	High Voltage Low VCR (100% VCR Screened) Chip Resistor	SMD	YES(1)	100% Matte Sn ("T")	Always	Always

Note (1): RoHS Compliant by means of exemption 7c-l.

"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	C	R	2	5	1	2	F	T	D	1	0	M	0
Product Series		Size		Tolerance		Packaging				TCR		Resistance Value		
Code	Description	Code	W	Code	Tol	Code	Description	Size	Quantity	Code	ppm	Four characters with the multiplier used as the decimal holder. 10 Mohm = 10M0 100 Mohm = 100M		
HVCR	High Voltage Low VCR (100% VCR Screened) Chip Resistor	1206	0.33	F	1%	T	7" Reel - Paper Tape	1206	1000	D	100			
		2512	2				7" Reel - Plastic Tape	2512						