

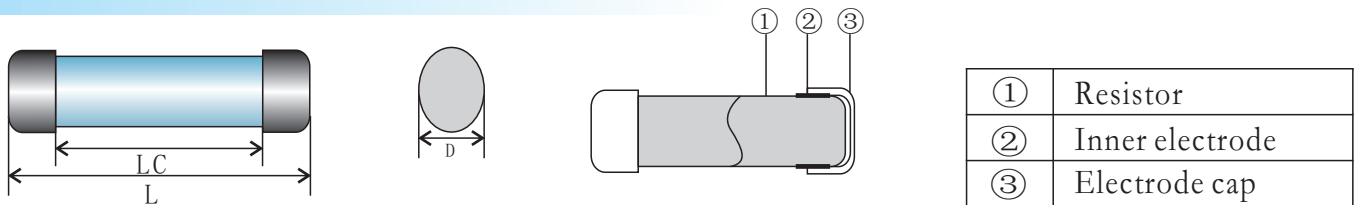
# HVC Ceramic Resistors



## Introduction

- I KHx's designers a compact suction for applications involving high voltages, surges, high peak power, or high-energy pulses.
- II The HVC is perfect for engine ignition system .
- III For customed designs, tighter tolerances, non-standard technical requirements, or custom special applications, please contact our sales for more information.

## Construction



## Features

- I Suitable for noise suppressor of engine ignition system. Excellent noise prevention of engine ignition circuit system.
- II High peak power, Reliable with non-disconnection failure. Highly reliable against disconnection.
- III Meets high energy density demands.
- IV Products meet Eu-RoHS requirements.

## Application

- I Inrush limiters.
- II R-C snubber circuits.
- III Engine ignition system.
- IV High voltage power supplies.

## Dimensions

Type	Dimensions(mm)			Cap Plating Type	Weight (g) (1000PCS)
	L	Lc	D		
HVC1/2	10.5 ± 0.5	5.4min	3.5 ± 0.2	Ni	330 ± 5g
HVC1	16.0 ± 1.0	9.6min	4.75 ± 0.3		810 ± 5g
HVC2S	18.0 ± 1.0	11.5min			920 ± 5g
HVC2		10min	7.2 ± 0.3	Sn	2350 ± 10g

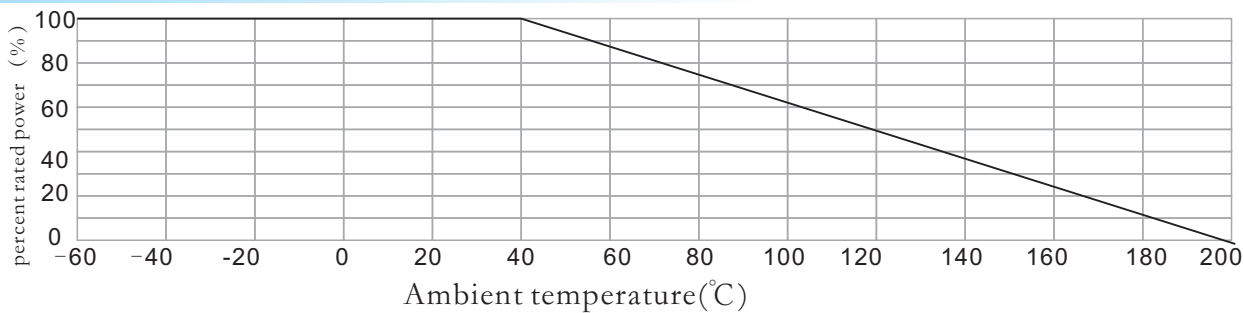
## Power And Resistance etc

Type	Power Rating	Nominal Resistance	Max. Working Voltage	Max. Overload Voltage	Rated Ambient Temperature	Operating Temp. Range	Packaging Qty/Bag (pcs)	Resistance Tolerance	T.C.R (X10 <sup>-6</sup> /K)
HVC 1/2	0.5W	1KΩ, 5KΩ 10KΩ, 15KΩ	85V	215V	+40°C	-40°C ~ +200°C	1000	M: ±20%	-1100 ± 300
HVC 1	1.0W		120V	305V			1000		
HVC 2S	1.5W		150V	375V			1000		
HVC 2	2.0W		170V	430V			500		

Rated voltage =  $\sqrt{\text{power rating} \times \text{resistance value}}$  or Max. working voltage, whichever is lower.

# HVC Ceramic Resistors

## Derating Curve



For resistors operated at an ambient temperature of 40°C or above, a power rating shall be derated in accordance with the above derating curve.

## Performance Reference Standards: IEC60115-1 and JI S5202-1

Test items	Performance Requirements $\Delta R \pm (\% + 0.05\Omega)$		Test Methods			
	Limit	Typical				
Resistance	Within specified tolerance	1K $\Omega$ 2K $\Omega$ 1.5K $\Omega$ 5K $\Omega$ 10K $\Omega$ 15K $\Omega$	25°C			
			Resistance	Measuring Voltage		
			1K $\Omega$ 5K $\Omega$	10V		
			10K $\Omega$ 15K $\Omega$	30V		
T.C.R	$-1100 \pm 300 \times 10^{-6} / K$	~	+25°C / -40°C and +25°C / +125°C			
Voltage coefficient	0 ~ -0.20% / V	~	Rated voltage and rated voltage X 10%			
Overload (short time)	$\leq \Delta R \pm (2\% + 0.05\Omega)$	0.3	Rated voltage * 2.5 or Max overload vol. whichever is lower for 5s			
Load life at high voltage pulse	$\Delta \leq \pm (5\% + 0.5\Omega)$	20 ~ 30KV	Continuous 250h high voltage pulse on test circuit (refer to JISD5111) HVC1/2, HVC 1; in silicon cil			
Resistor body strength	No mechanical damage	~	Type	Holding distance	Duration	Load
			HVC1/2	5.0 ± 0.2mm	10S	98N(10kg)
			HVC1	9.0 ± 0.3mm		
			HVC2S HVC2	12.3 ± 0.3mm		
Rapid change of temperature	$\leq \Delta R \pm (5\% + 0.5\Omega)$	5	-55°C (15min) / +155°C (15min) 500 cycles			
Moisture resistance	$\leq \Delta R \pm (5\% + 0.1\Omega)$	0.9	40°C ± 2°C, 90%-95%RH, 1000h 1.5hON \ 0.5hOFF cycles			
Load life	$\leq \Delta R \pm (5\% + 0.1\Omega)$	0.7	40°C ± 2°C, 1000h 1.5hON \ 0.5hOFF cycles			
Low temperature exposure	$\leq \Delta R \pm (5\% + 0.1\Omega)$	0.7	-40°C, 24h			
High temperature exposure	$\leq \Delta R \pm (5\% + 0.5\Omega)$	2.0	+200°C, 1000h			

When testing the resistance value, the temperature should keep at 25°C ± 2°C and the moisture keep at 65%.

## Ordering Information

Example

HVC	1/2	M	1K0
Product Code	Power Rating Symbol	Resistance Tolerance	Nominal Resistance
	1/2:0.5W 1:1.0W 2S:1.5W 2:2.0W	K: ± 10% M: ± 20%	1K0=1K $\Omega$ 5K0=5K $\Omega$ 10K0=10K $\Omega$ 15K0=15K $\Omega$