Introduction

Ⅰ.HVC ceramic resistor which KWX adopts specific technology by using a mixture of clay、silicon dioxide、porcelain powder, after high temperature sintering, the material is molded to the required shape.

Ⅱ.HVC ceramic resistor offers designers a solution for applications involving high voltages, surges, high peak power, or high energy pulses, perfect for engine ignition system.

Ⅲ.For customized designs, tighter tolerance, non-standard technical requirements, or custom special applications are available.

Features

Ⅰ Suitable for noise suppressor of engine ignition system.Excelent noise prevention of engine ignition circuit system.

Ⅱ High peak power,more reliable than wire wound resistors and film against disconnection.

Ⅲ Meets high energy density demands.

Ⅳ Products meet Eu-RoHS requirements.

Application

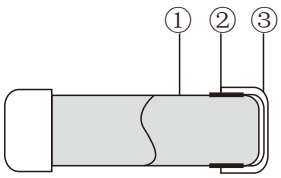
Ⅰ Inrush limiters.

Ⅱ R-C snubber circuits.

Ⅲ Engine ignition system.

Ⅳ High voltage power supplies.

Construction



①	Resistor
②	Inner electrode
③	Electrode cap

Ordering Information

Example:

HVC	1	K	T	10R0
(1)	(2)	(3)	(4)	(5)
Series Name	Power Rating	Resistance Tolerance	Packaging	Resistance

(1)Type: HVC SERIES

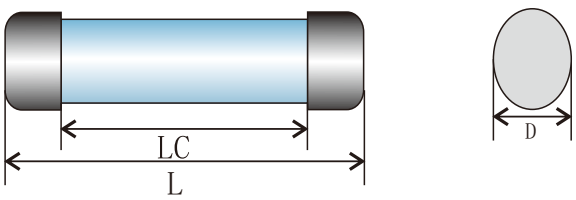
(2)Power Rating: 1/2S=0.5W、1/2=0.5W、1A=1W、2=2W、3=3W

(3)Tolerance: K=±10%、M=±20%

(4)Packaging: B=bulk, T=Tape&Reel

(5)Resistance Value:10R0=10R、R10=0.1Ω、47R0=47Ω

Dimensions



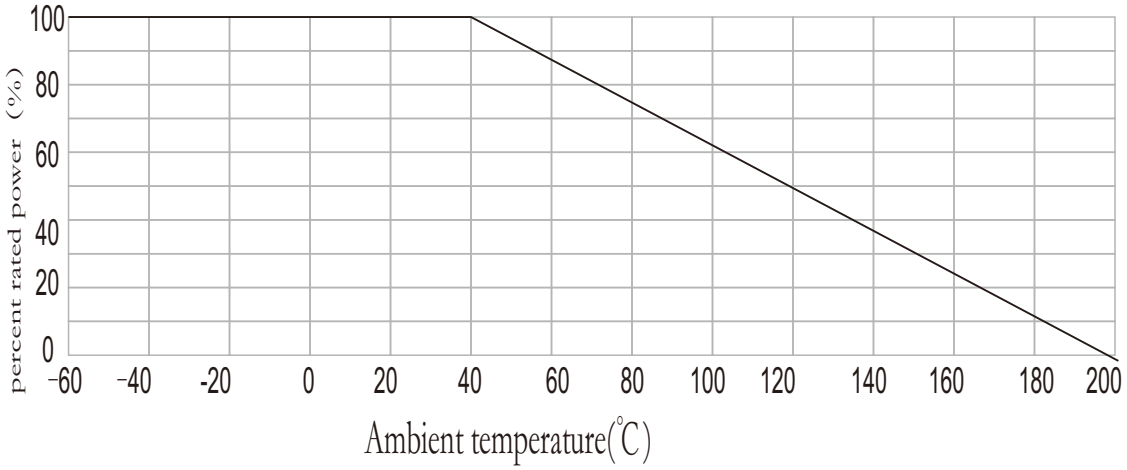
Type	power	Dimensions(mm)			Cap Plating Type
		L	Lc	D	
HVC1/2S	0.5W	10.7±0.5	3.0min	3.00±0.1	Sn or Ni
HVC1/2	0.5W	10.7±0.5	5.4min	3.50±0.1	
HVC1A	1W	11.0±0.5	5.4min	4.00±0.2	
HVC1B	1W	15.0±0.5	6.0min	4.00±0.2	
HVC1S	1W	11.0±0.5	4.0min	4.50±0.2	
HVC1C	1W	8.00±0.5	3.0min	4.50±0.2	
HVC2S	2W	15.0±0.5	6.0min	4.50±0.2	
HVC2	2W	18.0±0.5	8.0min	4.50±0.2	
HVC3A	3W	21.0±0.5	10.0min	4.50±0.2	
HVC3B	3W	16.5±0.5	7.0min	5.5±0.2	
HVC3C	3W	18.3±0.5	10.0min	7.2±0.3	

Power And Resistance etc

Type	Power Rating	Nominal Resistance	Max.Working Voltage	Max.Overload Voltage	Rated Ambient Temperature	Operating Temp.Range	Max. pulse voltage	Resistance Tolerance
HVC1/2S	0.5W	100Ω~20KΩ	85V	215V	+40℃	-40℃~+200℃	10KV	K:±10% M:±20%
HVC1/2	0.5W		85V	215V			15KV	
HVC1A	1.0W		120V	305V			15KV	
HVC1B	1.0W		120V	305V			15KV	
HVC1S	1.0W		120V	305V			20KV	
HVC1C	1.0W		150V	375V			20KV	
HVC2S	2.0W		170V	430V			25KV	
HVC2	2.0W		300V	600V			30KV	
HVC3A	3.0W		300V	600V			30KV	
HVC3B	3.0W		300V	600V			30KV	
HVC3C	3.0W		300V	600V			30KV	

Rated voltage= power rating*resistance value or Max.working voltage,whichever is lower.

Derating Curve



For resistors operated at an ambient temperature of 40℃ 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 △R±(%+0.05Ω)		Test Methods		
	Limit	Typical			
Resistance	Within specified tolerance	1KΩ 2KΩ 1.5KΩ 5KΩ 10KΩ 15KΩ	25℃		
			Resistance	Measuring Voltage	
			1KΩ 5KΩ	10V	
			10KΩ 15KΩ	30V	
T.C.R	-1500ppm/℃≤TCR≤-900ppm/℃	～	+25℃/-40℃ and +25℃/+125℃		
Voltage coefficient	0～-0.20%/V	～	Rated voltage and rated voltage x 10%		
Overload (short time)	≤△R±(2%R+0.05Ω)	0.3	Rated voltage x 2.5 or max overload voltage for 5 seconds. whichever is less.		
Load life at high voltage pulse	≤△R±(5%R+0.5Ω)	20～30KV	Continuous 250h high voltage pulse on test circuit (Refer to JIS D5111)HVC1/2, HVC1insulation oil		
Resistor body strength	No mechanical damage	～	Type	Holding distance	Duration / Load
			HVC1/2S, HVC1/2	5.0± 0.2mm	10s / 98N(10kg)
			HVC1A, HVC1S, HVC1	9.0± 0.3mm	10s / 98N(10kg)
			HVC2S	12.3± 0.3mm	10s / 98N(10kg)
			HVC2	12.3± 0.3mm	10s / 490N(50kg)
Rapid change of temperature	≤△R± (5%R+0.5Ω)	5	-55℃(15min)/+155℃ (15min) 500 cycles		
Moisture resistance	≤△R± (5%R+0.1Ω)	0.9	40℃ ±2℃,90%-95%RH,1000h 1.5hON/0.5h OFF cycles		
Load life	≤△R± (5%R+0.1Ω)	0.7	40℃ ±2℃,1000h 1.5h ON/0.5h OFF cycles		
Low temperature exposure	≤△R± (5%R+0.1Ω)	0.7	-40℃,24h		
High temperature exposure	≤△R± (5%R+0.5Ω)	2.0	+200℃,1000h		

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