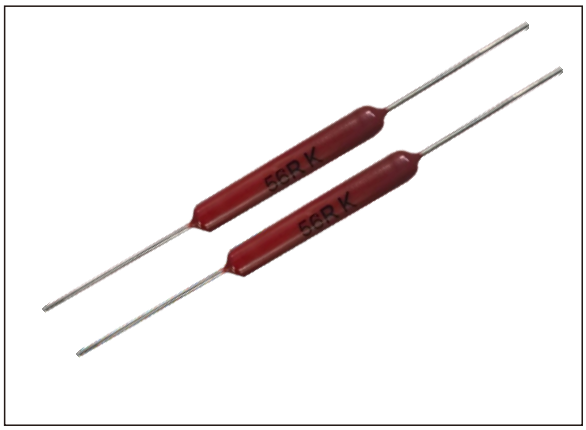
HBC/PGF Ceramic Resistors For Anti Pulse And Surge



Applications

Ⅰ Radar,Motor Drives, Broadcast Transmitters.
Ⅱ X-Ray equipment ,Lasers,Medical Defibrillators.
Ⅲ Dynamic Braking, Soft-start/Current-limit equipment.
Ⅳ Snubber Circuits, Dummy Loads, Energy Research field..
Ⅴ RF Amplifiers,Semiconductor Process,Power Conditioning.

Features

Ⅰ Special ceramic resistor , was made of Clay , Silicon dioxide and Porcelain cement ,After sintering under high temperature and high voltage , the resistor core was build ,then take the insulation coating.

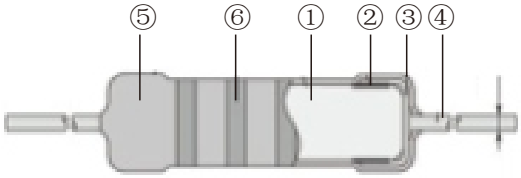
Ⅱ Saver than the wire-wound resistor and film resistor , which will avoid the wire disconnecting and the film breaking up .

Ⅲ High peak power can be reached at 0.5KW-5KW in short time.

Ⅳ Good performance in bearing high voltage and high current.

Ⅴ Products meet the RoHS requirments.

Construction



①	Resistive body	④	Lead wire
②	Inner electrode	⑤	Coating
③	Electrode cap	⑥	Marking

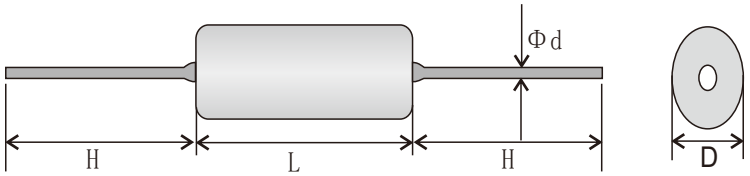
Ordering Information

Example:

HBC	1	K	100R0
(1)	(2)	(3)	(4)
Series Name	Power Rating	Resistance Tolerance	Resistance

(1)Type: HBC、PGF SERIES
(2)Power Rating: 1/2=0.5W,1=1W,2=2W
(3)Tolerance:K=±10%,M=±20%
(4)Resistance Value:10R0=10Ω、100R0=100Ω

Dimensions



Type	Power	Dimensions(mm)			
		L ± 1.0	D ± 1.0	Φd ± 0.05	H ± 3
HBC	0.5W	12.0	3.5	0.8	33
	1.0W	17.0	4.5	0.8	33
	2.0W	22.0	5.0	0.8	38
	3.0W	27.0	6.0	0.8	38
	4.0W	39.0	7.0	1.0	38
	5.0W	45.0	7.5	1.0	38
PGF	0.5W	9.0	3.5	0.7	33
	1.0W	16.5	5.5	0.8	38
	2.0W	19.0	7.0	0.8	38

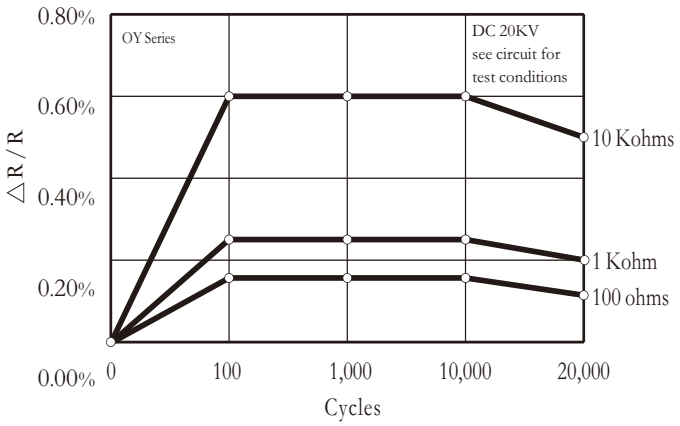
* The HBC Type is coated with a red high-temperature resistant insulating layer, featuring either color band marking or printed marking. The PGF Type is coated with a gray high-temperature resistant insulating layer, with color band marking.

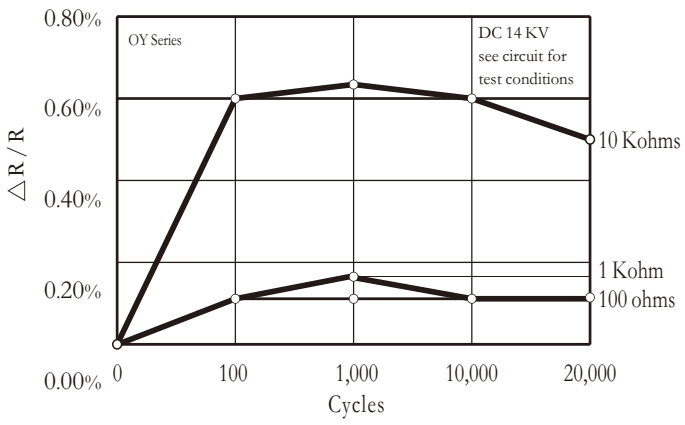
Power And Resistance Etc

Type	Power (W)	Resistance Range (Ω) E-12(±10%) E-6(±20%)	T C R	Minimum Dielectric Withstanding Voltage	Max.Working Voltage	Max.overload Voltage	Max.Pulse Voltage	Operating Temperature Range
HBC	0.5W	10Ω~390KΩ (±10%) 3.3Ω~330KΩ (±20%)	-900 ± 300 :R < 100Ω -1200 ± 300 :R ⩾ 100Ω	200V	200V	400V	8KV	-40℃ to+200℃
	1.0W			300V	300V	600V	15KV	
	2.0W			400V	400V	800V	25KV	
	3.0W			450V	450V	900V	25KV	
	4.0W			500V	500V	1000V	25KV	
	5.0W			550V	550V	1100V	25KV	
PGF	0.5W	4.7Ω~100KΩ	-900 ± 300 :R < 100Ω -1300 ± 300 :R < 100Ω	500V	200V	400V	10KV	
	1.0W	3.3Ω~390KΩ		500V	300V	600V	14KV	
	2.0W			700V	400V	800V	20KV	

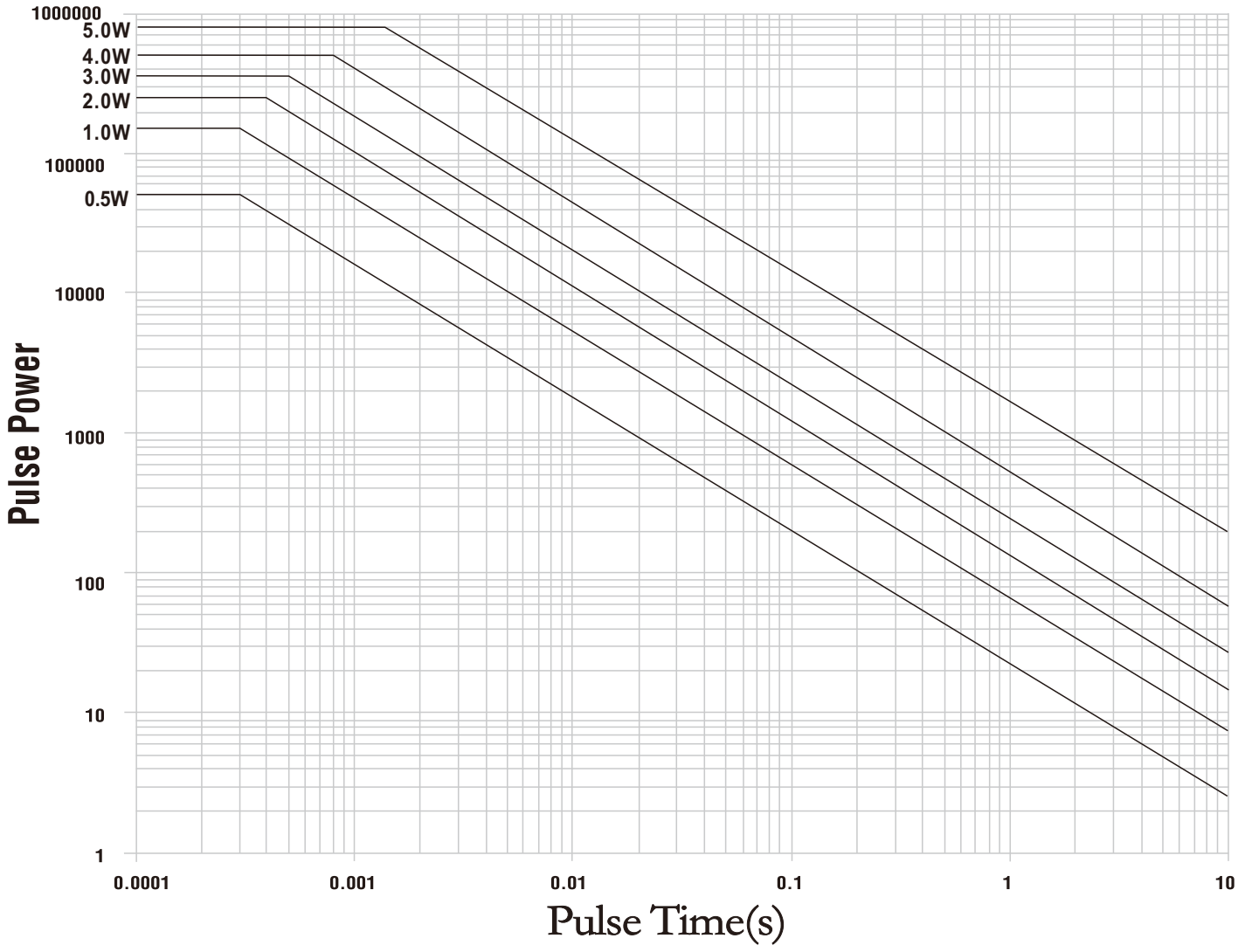
*Resistance to pulse: change shall be ± 5% of the pre-test values. 1 sec. ON, 1 second OFF, 20,000 cycles. The voltage is applied with maximum pulse voltage.

Resistance to Pulse

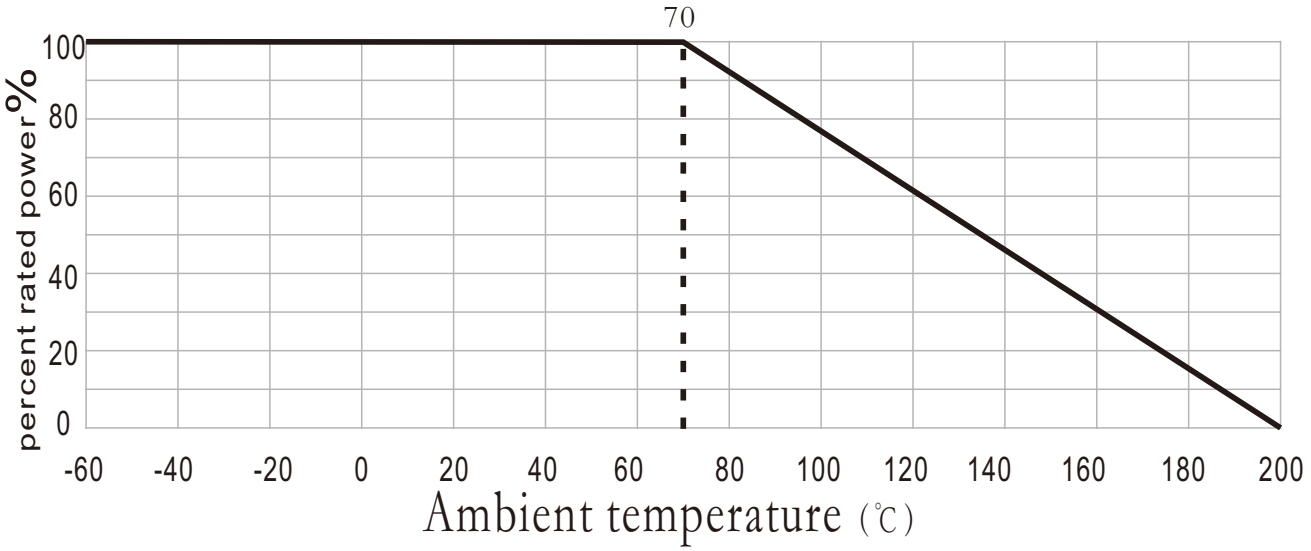




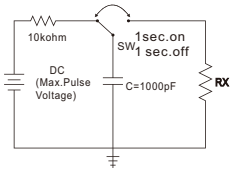
Pulse Limiting Power(Po) One Pulse



Derating Curve



Performance

Test Items	Peformance Requirements		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	1kΩ,2kΩ 3kΩ,5kΩ ……	25℃ Resistance: Measuring voltage 3.3Ω-8.2Ω: 0.3V 10Ω-82Ω: 1.0V 100Ω-390KΩ: 3.0V
T.C.R	HBC: -900±300*10^{-6}/K:R<100Ω -1200±300*10^{-6}K:R≥100Ω PGF -900±300:R<100Ω -1300±300:R>100Ω	~	+25℃/-40℃, and+25℃/+125℃
Voltage Coefficient (Apply for 1KΩ or above)	0~-0.2%/V(HBC1/2,PGF) 0~-0.1%/V(HBC1) 0~-0.05%/V(HBC2,3,4,5)	~	Rated voltage and rated voltage*10%
Overload(Short time)	≤△R±(2%R+0.05Ω)	0.4	Rated voltage *2.5or Max.over vol.which is lower for 5s
Resistance to pulse	≤△R±(5%R+0.05Ω)	~	The resistor mounted to the test circuit as below. 1 sec. ON and 1 sec. OFF. 20,000 cycles. The voltage is applied with maximum pulse voltage. 
Resistance to soldering heat	≤△R±(2%R+0.05Ω)	0.8	350℃±10℃、3.5S±0.5S
Rapid change of temperature	≤△R±(2%R+0.05Ω)	0.4	-40℃ (30min) /+85℃ (30min) 5 cycles
Moisture resistance	≤△R±(5%R+0.05Ω)	0.6	40℃±2℃90%-95%RH,1000h1.5hON\0.5hOFF cycles
Load life	≤△R±(5%R+0.05Ω)	0.4	HBC:40℃±2℃,1000h 1.5hON\0.5hOFF cycles PGF:70℃±3℃,1000h 1.5hON\0.5hOFF cycles