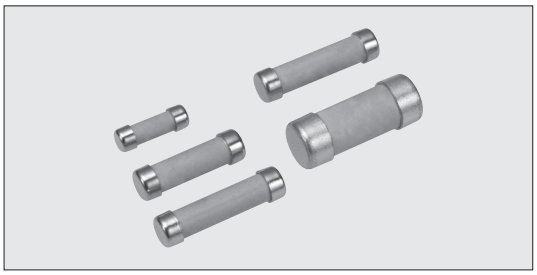
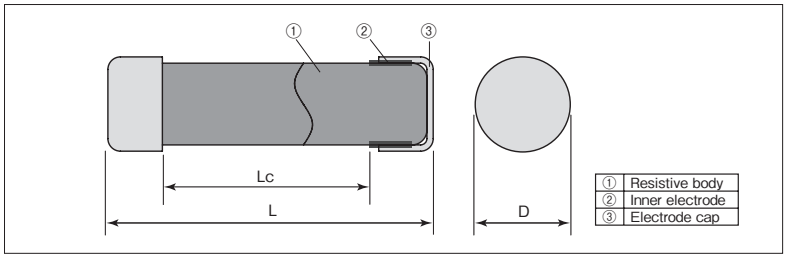
EU RoHS

CPCN Ceramic Resistors



No coating

■Construction



■Features

- Excellent noise prevention of engine ignition circuit system.
- High reliability against disconnection.
- Products meet EU-RoHS requirements.

■Reference Standards

IEC 60115-1
JIS C 5201-1

■Dimensions

Type	Dimensions (mm)			Cap Material	Weight (g) (1000pcs)
	L	Lc	D		
CPCN1/2	10.7±0.5	5.4Min.	3.5±0.1	Fe(Ni/Cu plating)	330
CPCN1	16.0±0.6	9.6Min.	4.75±0.3		810
CPCN2N	18.3±0.6	11.5Min.			920
CPCN2NS				SUS304	920
CPCN3		10.0Min.	7.2±0.3	Fe(Sn/Cu plating)	2350

■Type Designation

Example

CPCN	2N	S	502	M
Product Code	Power Rating Symbol	Cap Material Symbol	Nominal Resistance	Resistance Tolerance
CPCN	1/2:0.5W 1:1.0W 2N:1.5W 3:2.0W	S:SUS304 Nil:Fe(plating)	3 digits	M:±20%

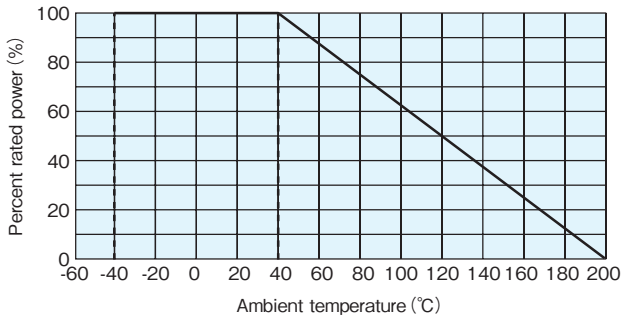
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

■Ratings

Type	Power Rating	Nominal Resistance	Resistance Tolerance	T.C.R. (×10⁻⁶/K)	Max. Working Voltage	Max. Overload Voltage	Rated Ambient Temp.	Operating Temp. Range	Packaging Q'ty/Bag (pcs)
CPCN1/2	0.5W	1kΩ, 5kΩ 10kΩ, 15kΩ	M:±20%	−1200±300	86V	215V	+40℃	−40℃～ +200℃	1,000
CPCN1	1.0W				122V	305V			1,000
CPCN2N CPCN2NS	1.5W	1kΩ, 2kΩ, 5kΩ 10kΩ, 15kΩ			150V	375V			1,000
CPCN3	2.0W	15kΩ			173V	432V			500

Rated voltage=$\sqrt{\text{Power Rating}\times\text{Resistance value}}$ or Max. working voltage, whichever is lower.

■Derating Curve



For resistors operated at the ambient temperature of 40℃ or higher, the power rating shall be derated in accordance with the above derating curve.

■Performance

Test Items	Performance Requirements ΔR± (%+0.05Ω)		Test Methods			
	Limit	Typical				
Resistance	Within specified tolerance	—	25℃			
			Resistance	Measuring voltage		
			1kΩ, 2kΩ, 5kΩ	10V		
			10kΩ, 15kΩ	30V		
T.C.R.	−1200±300×10⁻⁶/K	—	+25℃/−40℃ and +25℃/+125℃			
Voltage coefficient	0～−0.2%/V	—	Rated voltage and rated voltage×10%			
Overload (Short time)	2	0.3	Rated voltage×2.5 or Max. overload vol., whichever is lower, for 5s			
Load life at high voltage pulse	30	—	Continuous 250h high voltage pulse on the test circuit (Refer to JIS D 5111) CPCN½, CPCN1 : In insulation oil			
Resistor body strength	No mechanical damage	—	Type	Holding distance	Duration	Load
			CPCN1/2	5.0±0.2mm	10s	98N (10kgf)
			CPCN1	9.0±0.3mm		
			CPCN2N, 2NS	12.3±0.3mm		
			CPCN3			490N (50kgf)
Rapid change of temperature	5	—	−55℃ (15min.) / +155℃ (15min.) 500 cycles			
Moisture resistance	5	0.9	40℃±2℃, 90%～95%RH, 1000h 1.5h ON/0.5h OFF cycle			
Load life	5	0.7	40℃±2℃, 1000h 1.5h ON/0.5h OFF cycle			
Low temperature exposure	5	0.7	−40℃, 24h			
High temperature exposure	5	2.0	+200℃, 1000h			

The resistance measurement before and after the test should be performed at a difference of ±1℃ of room temp.

■Precautions for Use

- Under the environment where surge like thunders etc. is apt to happen, the resistors used for open circuit, resistors connected directly to input, output or ground, and resistors used for the circuit pulse applied to, may be destructed by surge or pulse. Therefore, the resistors need to be selected after sufficient check on the supposition of the worst condition against possible surge and pulse.
- Please design the receiving terminal and the mounting method so that big power is not applied to the resistor when you assemble the resistor. Especially, comparatively weak power might be broken in the condition that the one side of the resistor is fixed.Please do not add the outside power when you assemble the resistor with the one side of the resistor fixed.