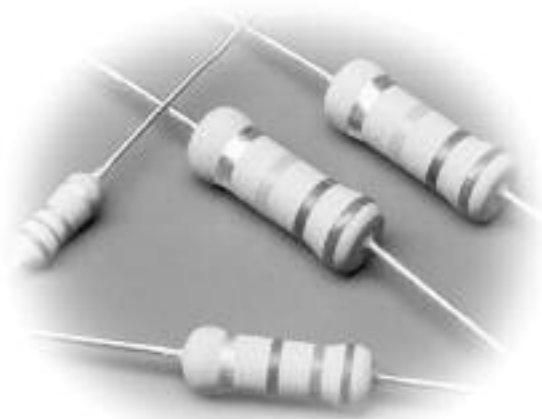
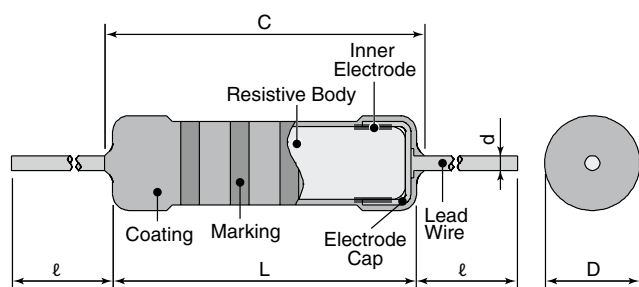




features

- KOA original bulk ceramic resistors
- Coated with UL94V0 flameproof material
- Excellent in anti-pulse characteristics
- Non-inductive resistors
- Marking: Light green body color with color-coded bands
- Products with lead-free terminations meet EU RoHS requirements
- Higher reliability against disconnection compared to wirewound resistors and film resistors

dimensions and construction



Type	Dimensions inches (mm)				
	L	C (max.)	D	d (nom.)	I*
PCF1/2	.354±.039 (9.0±1.0)	.437 (11.1)	.138±.02 (3.5±0.5)	.028 (0.7)	1.18±.118 (30.0±3.0)
PCF1	0.65±.039 (16.5±1.0)	.748 (19.0)	.217±.039 (5.5±1.0)	.031 (0.8)	1.50±.118 (38.0±3.0)
PCF2	.748±.039 (19.0±1.0)	.886 (22.5)	.276±.039 (7.0±1.0)		

* Lead length changes depending on taping type

ordering information

Part #	PCF	1	C	T631	R	103	K
Type	PCF	Power Rating	Termination Material	Taping	Packaging	Nominal Resistance	Tolerance
	PCF	1/2: 0.5W 1: 1W 2: 2W	C: SnCu	1/2: T52 1: T631 2: T631	R: Reel	2 significant figures + 1 multiplier	K: ±10% M: ±20%

For further information on packaging, please refer to Appendix C.

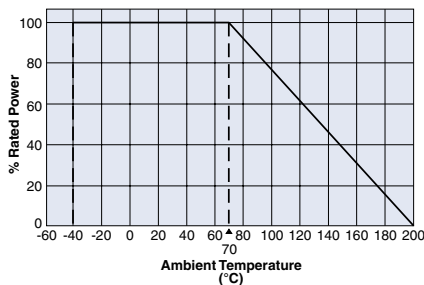
applications and ratings

Part Designation	Power Rating @ 70°C	Minimum Dielectric Withstanding Voltage	Resistance Range E-12 (±10%) E-6 (±20%)	Resistance Tolerance	T.C.R. (ppm/°C)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Absolute Maximum Pulse Voltage*	Rated Ambient Temp.	Operating Temp. Range
PCF1/2	0.5W	500V	4.7Ω - 100KΩ	K: ±10% M: ±20%	-900±300: R<100Ω	200V	400V	10kV	+70°C	-40°C to +200°C
PCF1	1.0W		3.3Ω - 390KΩ		-1300±300: R≥100Ω	300V	600V	14kV		
PCF2	2.0W	700V				400V	800V	20kV		

* Resistance to pulse: change shall be ±5% of the pre-test values. 1 sec. ON, 1 second OFF, 10,000 cycles. The voltage is applied with maximum pulse voltage.

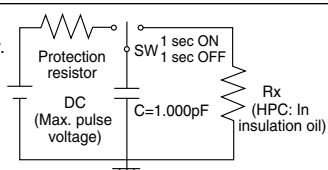
environmental applications

Derating Curve



For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the derating curve.

Performance Characteristics

Parameter	Requirement $\Delta R \pm(\% + 0.05\Omega)$		Test Method	
	Limit	Typical		
Resistance	Within regulated to tolerance	—	Resistance	Measurement voltage
			3.3Ω≤R<10Ω	0.3V
			10Ω≤R<100Ω	1.0V
			100Ω≤R<390kΩ	3.0V
T.C.R	-900±300x10 ⁻⁶ /K: R<100Ω -1300±300x10 ⁻⁶ /K: R≥100Ω	—	+25°C/-40°C, +25°C/+75°C and +25°C/+125°C	
Voltage Coefficient (Apply for over 1kΩ)	0~0.2%/V	—	Rated voltage and rated voltage x 10%	
Overload	2%	0.4%	Rated voltage x 2.5 or maximum overload voltage for 5s, whichever less	
Resistance to pulse	5%	—	The resistor mounted to the test circuit as below. 1 sec. ON and 1 sec. OFF. 10,000 cycles. The voltage is applied with maximum pulse voltage. 	
Resistance to soldering heat	2%	0.8%	350°C±10°C, 3.5s±0.5s	
Rapid change of temperature	2%	0.4%	-40°C (30 min.)/+85°C (30 min.), 5 cycles	
Moisture resistance	5%	0.6%	40°C±2°C, 90%~95%RH, 1000 hours, 1.5h ON/0, 5h OFF cycles	
Load life	5%	0.4%	70°C±3°C, 1000h, 1.5h ON/0, 5h OFF cycles	
Resistance to Solvent	No abnormality in appearance. Marking shall be easily legible.	—	Dipping in IPA or Xylene for 3 minutes and leaving for 10 minutes after removing drops, then brushing 10 times.	