



## Introduction

Rod and Tube Resistors are manufactured from a carefully selected mixture of clays, alumina and carbon. After blending, the material is extruded into the required shape and then fired, in a controlled atmosphere, at high temperature.

Aluminium is then flame sprayed onto the barrel surfaces (as standard) to provide electrical contact

Alternative metallised contacts and corona shielded terminals are also available.

Rod and Tube Resistors are available with Outside Diameters ranging from 10mm to 50mm and in Lengths up to 600mm..

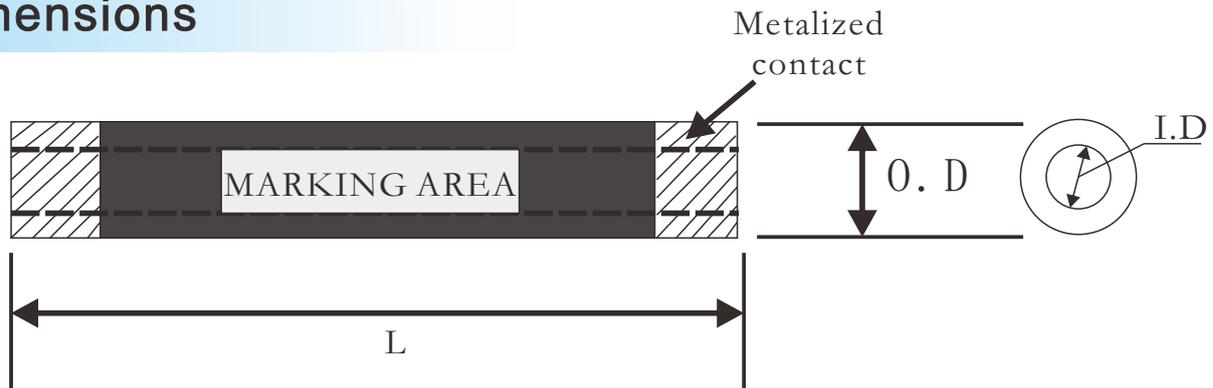
## Features

- I .High Voltage
- II .High Energy
- III .Non-Inductive
- IV .Wide Range of Geometries
- V .Custom Solutions Readily Available

## Applications

- I .Dummy Aerial Loads
- II .Overvoltage Protection
- III .Capacitor Discharge

## Dimensions



Type	O.D (mm)	I.D (mm)	L (cm)
CC1005T	10	-	5.0
CC1010T	10	-	10
CC2008T	20	-	7.5
CC2515T	25	15	15
CC2525T	25	15	25
CC2546T	25	15	48
CC5030T	50	35	30
CC5046T	50	35	45

Type	O.D (mm)	I.D (mm)	L (cm)
CC1305T-DS	12.7	5.6	5.1
CC1906T-DS	19.1	12.7	6.4
CC1913T-DS	19.1	12.7	13
CC2515T-DS	25.4	19.0	15
CC2520T-DS	25.4	19.0	20
CC2530T-DS	25.4	19.0	30
CC5046T-DS	25.4	19.0	46
CC3815T-DS	38.0	25.0	15
CC3820T-DS	38.0	25.0	20
CC3830T-DS	38.0	25.0	30
CC3846T-DS	38.0	25.0	46

## Reference Standards

MIL-STD-202F

## ● Power And Resistance etc

Type	Power (w)	Energy (J)	Impulse (kv)	Resistance Range( $\Omega$ )	Comment
CC1005T	10	1.000	1.6*logR	10-1.0K	Solid Rod
CC1010T	20	2.000	3.0*logR	22-2.2K	Solid Rod
CC2008T	24	6.000	4.4*logR	10-2.2K	Solid Rod
CC2515T	55	11.000	6.5*logR	15-2.2K	High Energy Tube
CC2525T	90	22.000	8.0*logR	22-4.7K	High Energy Tube
CC2546T	150	45.000	12.0*logR	47-10.0K	High Energy Tube
CC5030T	200	94.000	8.5*logR	15-1.5K	High Energy Tube
CC5046T	300	140.000	12.0*logR	22-2.2K	High Energy Tube

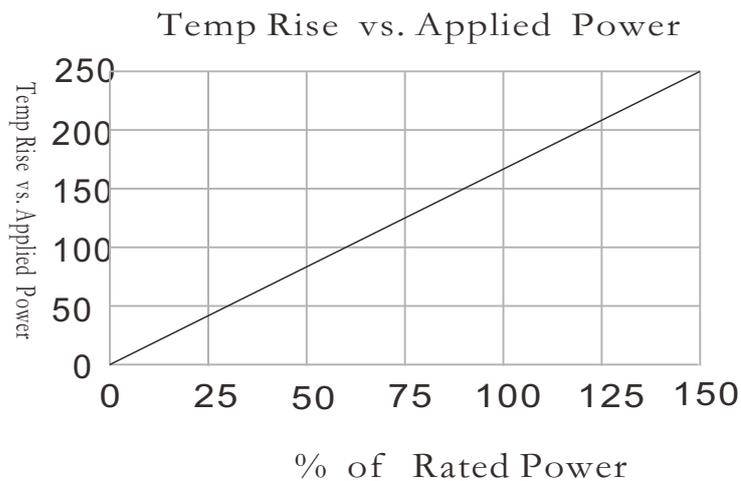
Type	Power (w)	Energy (joules)	Peak Voltage	Resistance Range( $\Omega$ )
CC1305T-DS	12	1.400	5.000	10-25K
CC1906T-DS	15	2.800	8.000	6.8-22K
CC1913T-DS	30	7.500	20.000	15-47K
CC2515T-DS	50	13.000	30.000	8.2-33K
CC2520T-DS	75	16.5000	45.000	12-42K
CC2530T-DS	100	27.000	75.000	18-68K
CC5046T-DS	150	43.000	120.000	22-100K
CC3815T-DS	70	30.000	30.000	3.3-10K
CC3820T-DS	100	46.000	45.000	3.9-15K
CC3830T-DS	150	75.000	75.000	4.7-22K
CC3846T-DS	225	119.000	120.000	6.8-33K

## ● Performance

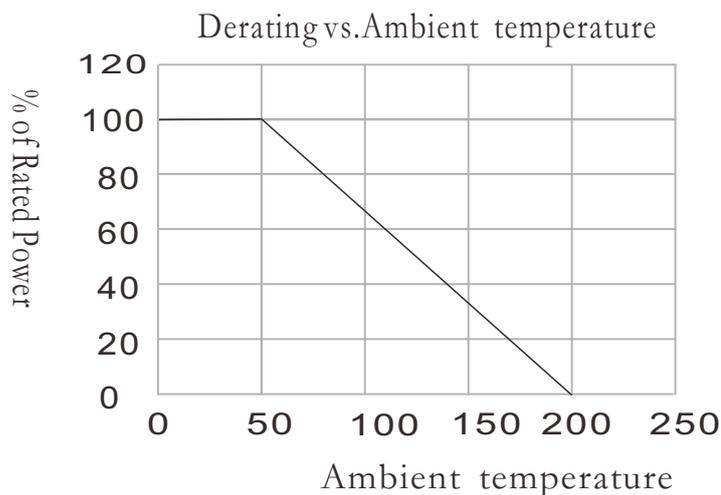
Resistance Values:	Preferred values are to the E6 series per decade. Other resistance values may be made available upon request
Resistance Tolerance:	$\pm 20\%$ but $\pm 10\%$ may be made available.
Temperature Coefficient - TCR	Between -0.8% and -0.16% per °C rise in temperature. The higher the resistivity, the higher the temperature coefficient
Shelf Life:	After 6 months storage under normal conditions the resistance change is less than $\pm 3\%$ .
Load Life Stability:	After 2000 hours continuous load producing 220 °C surface temperature the resistance change is less than $\pm 20\%$ .
Inductance:	This is negligible and the resistors may be described as Non-Inductive In practice, the inductance of connecting leads will be greater than that of the resistor.
Voltage Coefficient:	Maximum of -5% / kV peak / cm, decreasing with resistivity
Power Ratings :	These are determined by the maximum permissible surface temperature of 220 °C. In free air, vertical mounting will provide better cooling than horizontal mounting. The load ratings in the table and the de-rating formula are for vertical mounting. Forced cooling will permit a considerable increase in loading.
Environment:	Air, Oil, SF6.

Parameter	Maximum $\Delta R$	Test Method
Life Test	+5%	MIL-STD-202F method 108a .except 50°C
Single Pulse Energy	$\pm 1.5\%$	Single pulse capacitor discharge of 100%Rated Energy@1000vdc
Short-time Overload	$\pm 2.5\%$	5x rated power .2 seconnds ON 5 seconnds OFF 5 cycles
Long-term High Temperature	$\pm 2.0\%$	1000hours@150°C
Temperature Coefficient of R	-1500ppm /°C $\leq$ T.CR $\leq$ 0	Two point measurement.20°C and 100°C

## Temp Rise vs. Applied Power



## Derating vs. Ambient temperature



## Ordering Information

Example:

CC2546T	150W	J	D	L	47R0
Product Name	Power	精度 Tol	I.D(mm)	Length(mm)	阻值Ohm
CC1005T CC1010T CC2008T .....	10=10W.20=20W 24=24W.55=55W ..... 300=300W	J=± 5% K=± 10% M=± 20%	15. 35 5.6 ..... 25	5.0 10. 15 .... 45	0R100=0.1Ω 0R200=0.22Ω 10R00=10Ω 10K00=10KΩ