

TE Connectivity is a leading supplier of standard and custom-designed power resistors for industrial, control and general- purpose applications.

The TE range of flameproof coated tubular ceramic core resistors use both standard and edge wound (corrugated) winding methods to improve power handling capability. Designed for heavy duty machinery, electrical equipment, motor control etc. requiring stability and reliability.

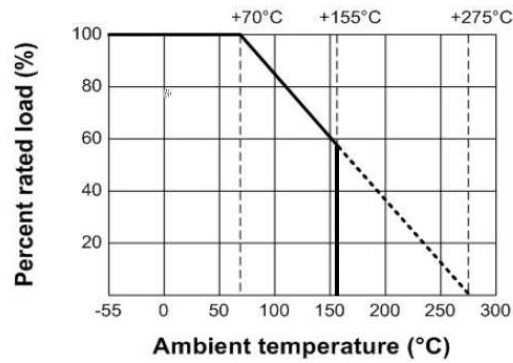
Characteristics – Electrical

Power rating @70°C in free air	50W – 2500W (see table)
Resistance range	See table
Selection series	E12
Tolerance	±5% ±10%
Temperature Coefficient of resistance	< ± PPM/°C ±300PPM/°C
Operating temperature range	-55 ~ +155°C
Short term overload	3 x rated power / 5 seconds
Dielectric strength	2500VAC Min.
Insulation resistance	DC V M min.

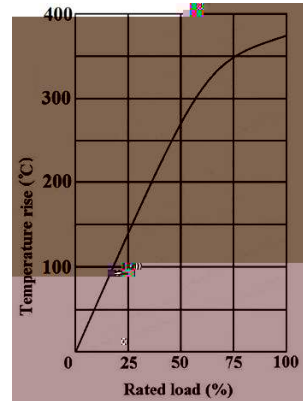
Specifications – Electrical

Power Rating	Resistance Value	Tolerance	Appearance
50W	R10 ~ 2K7	±5% ±10%	Smooth
60W	R10 ~ 2K7	±5% ±10%	Smooth
80W	R10 ~ 2K7	±5% ±10%	Smooth
100W	1R0 ~ 2K7	±5% ±10%	Smooth
120W	1R0 ~ 2K7	±5% ±10%	Smooth
150W	1R0 ~ 2K7	±5% ±10%	Smooth
200W	1R0 ~ 9R1	±5% ±10%	Ribbed
	10R ~ 2K7	±5% ±10%	Smooth
300W	1R0 ~ 9R1	±5% ±10%	Ribbed
	10R ~ 2K7	±5% ±10%	Smooth
400W	1R0 ~ 15R	±5% ±10%	Ribbed

Derating Curve

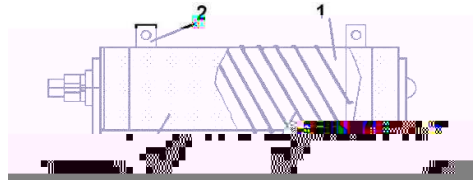


Temperature Rise Chart

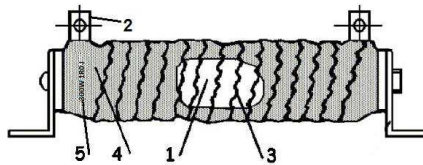


Construction:

Smooth:

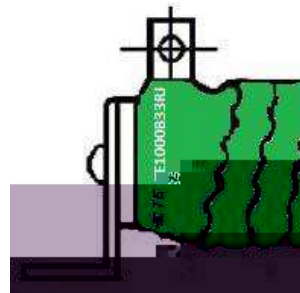


Ribbed:



No.	Name	Material	Material Generic Name
1	Basic Body	Rod Type Ceramics	Al₂O₃, SiO₂
2	Terminal	Tin plated terminal cap	Fe : 73%, Mn : 21%, C : 5%
3	Resistance Wire	Ni-Cr or Cu-Ni Alloy	Ni-Cr or Cu-Ni Alloy
4	Coating	Insulated and non-flame paint (Color: Green)	Non-Flame paint UL94V
5	Marking	Marking Ink	---

Marking



Environmental Characteristics:

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature Coefficient	< ± 400 PPM/Max. \pm PPM Max.	Natural Resistance change per temperature degree centigrade. R - R ----- x PPM/°C R t - t R : Resistance at room temperature t R : Resistance at room temperature + °C t (Sub-clause 4.8)
Short term overload	\pm %+ . Maximum evidence of mechanical damage	Permanent resistance change after the application of a potential of 3 x RCWV for 5 seconds (Sub-clause 4.13)
Terminal Strength	No evidence of mechanical damage	: Resistance to a 2.5 kgs direct load for 10 secs. in the direction of the longitudinal axis of the terminal leads : Terminal leads shall be bent through 90 ° at a point of about 6mm from the body of the resistor and shall be rotated through 360° about the original axis of the bent terminal in alternating direction for a total of 3 rotations (Sub-clause 4.16)
Solderability	95 % coverage Min.	The area covered with a new smooth, clean, shiny and continuous surface free from concentrated pinholes. Test temp. of solder : 245 \pm 3 Dwell time in solder : 2 ~ 3 seconds (Sub-clause 4.17)
Soldering Temp. Reference	Electrical Characteristics shall be satisfied without distinct deformation in appearance. (95% coverage Min.)	Terminals immersed into solder bath to 3.2 ~ 4.8mm from the body. Permanent resistance change shall be checked. <u>Wave soldering condition (2 cycles max.)</u> Pre-heat : 100 ~ 120 , 30 \pm 5sec. Suggested solder temp.: 235 ~ 255 , 10 sec. (max.) Peak temp.: 260 <u>Hand soldering condition:</u> Hand Soldering bit temp. : 380 \pm 10 Dwell time in solder : 3 +1/-0 sec.
Resistance to soldering heat	Resistance change rate \pm %+ . Maximum evidence of mechanical damage	Permanent resistance change when terminals immersed to 3.2 ~ 4.8mm from body in 350°C \pm 10°C solder for 3 \pm 0.5 seconds Sub-clause 4.18
Load life in humidity	Resistance change rate \pm (5%+ . Maximum evidence of mechanical damage	Resistance change after 1,000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity test chamber controlled at 40 \pm 2 and 90 to 95 % relative humidity (Sub-clause 4.24.2.1)
Load Life	Resistance change rate \pm (5%+ . Maximum evidence of mechanical damage	Permanent resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours "on", 0.5 hour "off") at 70 \pm 2 ambient (Sub-clause 4.25.1)

Dimensions:

50W	102	124	146	28	28	61	6.5	28	8	1.8	4.3
60W	102	124	146	28	28	61	6.5	28	8	1.8	4.3
80W	152	174	196	28	28	61	6.5	28	8	1.8	4.3
100W	182	204	226	28	28	61	6.5	28	8	1.8	4.3
120W	182	204	226	28	28	61	6.5	28	8	1.8	4.3
150W	195	217	239	40	41	81	8	40	10	1.8	5.5
200W	195	217	239	40	41	81	8	40	10	1.8	5.5
300W	282	304	326	40	41	81	8	40	10	1.8	5.5
400W	282	304	326	40							