

## ● Features

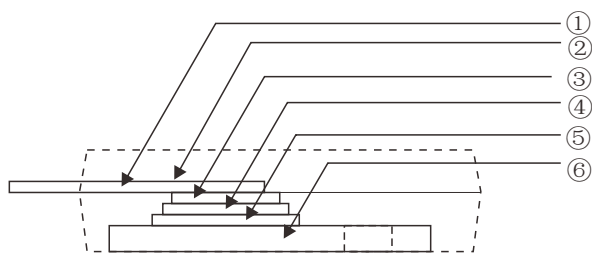
- I At 25°C case temperature heat sink mounted
- II TO-220 style power package
- III Molded case for protection and easy to mount
- IV Electrically isolated case
- V Non-Inductive design

## ● Application

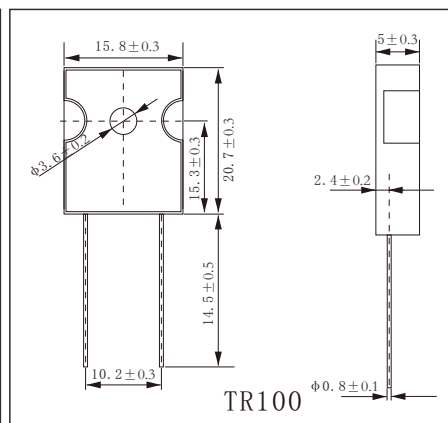
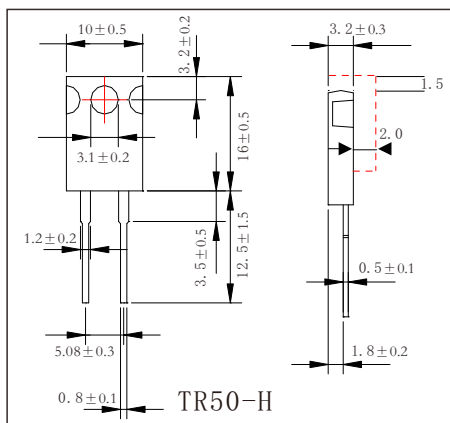
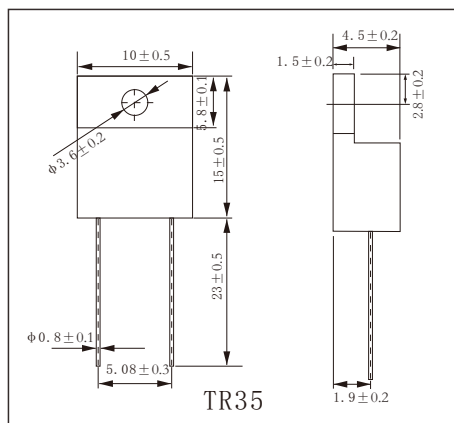
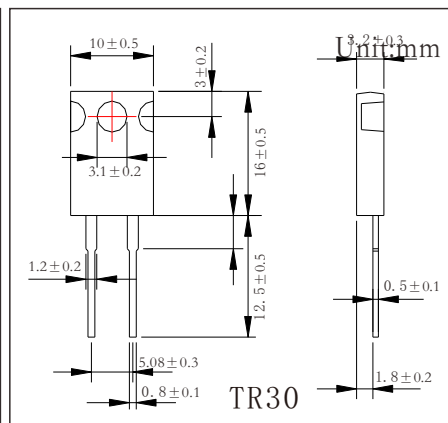
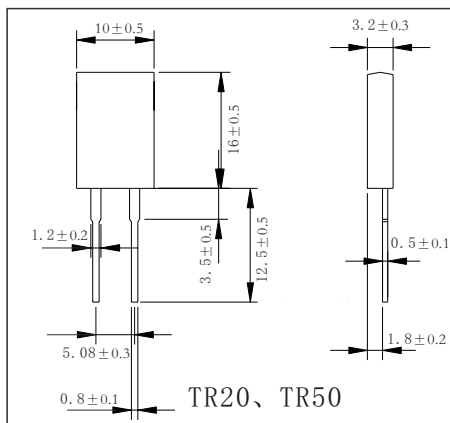
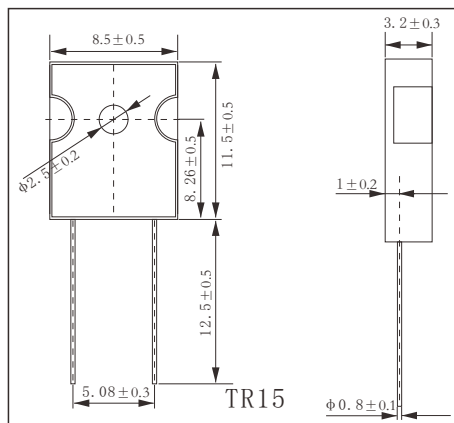
- I Switching Power Supplies
- II Snubbers Circuits
- III Automated Machine Controller
- IV RF Power Amplifiers

- V Low Energy Pulse Loading
- VI UPS
- VII Voltage Regulation

## ● Construction



①	Leads, Tin plated Cu
②	Mold, epoxy, UL94-V0
③	Conductor, Cu
④	Resistor, NiCr or RuO
⑤	Substrate, Alumina
⑥	Flange, Ni plated Cu



## Ordering Information

Example:

TR	15	D	10R0	C2	B
(1)	(2)	(3)	(4)	(5)	(6)
Series Name	Power Rating	Resistance Tolerance	Resistance	T.C.R	Packaging

(1)Type:TR SERIES

(2)Power Rating: 15=15W,20=20W,30=30W,35=35W,50=50W,50-H=50W,100=100W,100=100W

(3)Tolerance: D=±0.5%,F=±1%,J=±5%,K=±10%

(4)Resistance Value:10R0=10Ω

(5)T.C.R: C2=±50ppm/°C,C1=±100ppm/°C,C=±200ppm/°C or ±300ppm/°C

(6)Packaging:B=Box

Packaging : Plastic recloseablebags(MOQ : 100PCS)

## Reference Standards

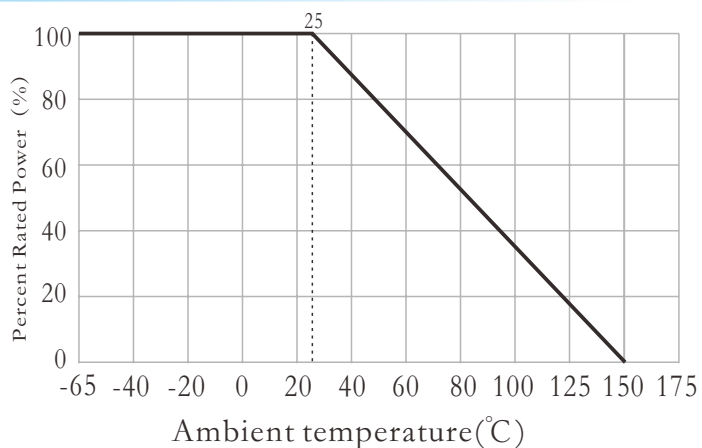
JISC 5201-1

## Applications And Ratings

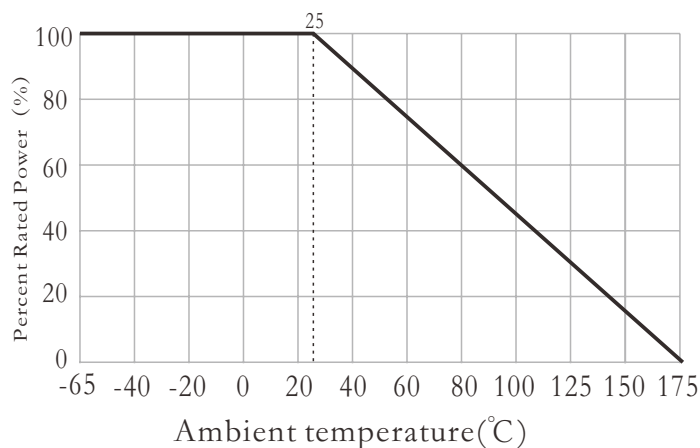
Type	Power (25°C)	Thermal resistance (°C/W)	Resistance Range (Ω)	Tolerance	T.C.R	Max working Voltage (V)	Climatic category
TR15	15	6.5	0.1~1MΩ	±0.5% ±1% ±5% ±10%	±50ppm/°C ±100ppm/°C ±200ppm/°C ±300ppm/°C	350V	55/125/56
TR20	20	6.5					
TR30	30	6.5					
TR35	35	6.5				500V	
TR50	50	5.0					
TR50-H	50	5.0				1000V	
TR100	100	5.0					

- Operating Voltage: 350V max.
- Dielectric Strength: 1800VAC
- Insulation Resistance: 10GΩmin.
- Working Temperature Range: -65°C to +150°C
- TR100 Working Temperature Range: -65°C to +175°C
- Resistance Value <1Ω is available

## Derating Curve



TR15/TR20 /TR30/ TR35/ TR50 /TR50-H



TR100

## ● Performance

Test Items	Performance Requirements	Test Methods(JIS C 5201-1)
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	Referenced to 25°C, ΔR taken at +105°C
Short Time Overload	ΔR ± 0.3%	2 times rated power with applied voltage not to exceed 1.5 times Maximum continuous operating voltage for 5 seconds
Load Life	ΔR ± 1.0%	2,000 hours at rated power
Damp Heat with Load	ΔR ± 0.5%	40 ± 2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	90% min. Coverage	245 ± 5°C for 3 seconds
Thermal Shock	ΔR ± 0.3%	-65°C ~ 150°C, 100 cycles
Terminal Strength	ΔR ± 0.2%	(Pull Test) 2.4N
Vibration, High Frequency	ΔR ± 0.2%	20g peak

- Lead Material: Tinned Copper
- Without a Heat Sink
- When in Free Air at 25°C, the TR20 is Rated for 3W,, the TR30 is rated for 2.25W, the TR35 is rated for 2.5W,the TR50 is rated for 3W,the TR50-H is rated for 2.25W, the TR100 is rated for 3.5W.
- The Case Temperature is to be used for the Definition of the Applied Power Limit
- The Case Temperature Measurement must be made with a Thermocouple Contacting the Center of the Component mounted on the Designed Heat Sink.
- Thermal Grease should be Applied Properly