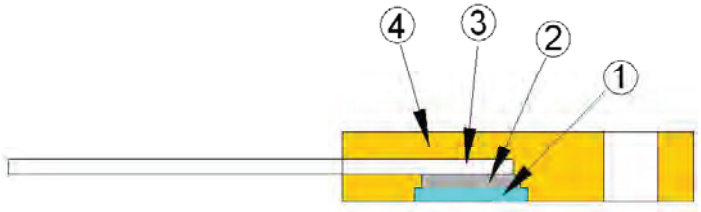


# TO-220 Power Resistor – TR50-H



## Construction



① Alumina Substrate	③ Lead
② Resistor Layer	④ Molding

## Features

- 50 watts at  $\leq 25^{\circ}\text{C}$  case temperature heat sink mounted
- TO-220 style power package
- Fixed with a M3 screw on system heat sink.
- Improve the heat dissipation by ceramic exposure design with external fix jig to mount the chip on heat sink

## Applications

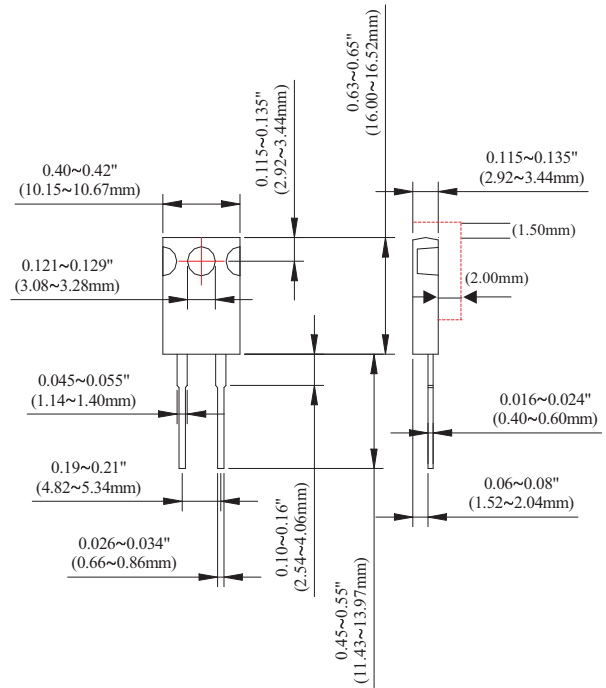
- Power Supplies
- Non-inductive Design for High Frequency
- Pulsing Applications

## Dimensions

Unit: mm

Type	Weight (g) (1000pcs)
TR50-H	2770

Unit: mm

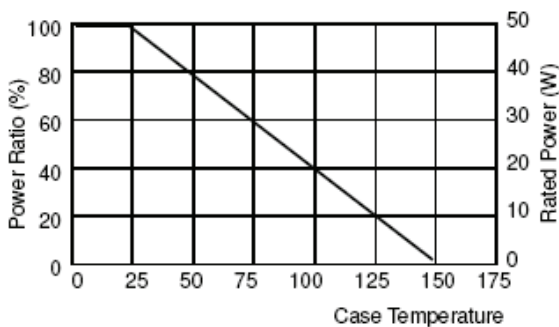


## Electrical Characteristics Specifications

Resistance Range	TCR (PPM/ $^{\circ}\text{C}$ )			
	$\pm 0.5\%$	$\pm 1\%$	$\pm 5\%$	$\pm 10\%$
0.1 $\Omega$ - 1 $\Omega$	/	/	—	—
>1 $\Omega$ - 3 $\Omega$	/	$\pm 300$	$\pm 300$	$\pm 300$
>3 $\Omega$ - 10 $\Omega$	/	$\pm 100$ $\pm 200$	$\pm 100$ $\pm 200$	$\pm 100$ $\pm 200$
>10 $\Omega$ - 10K $\Omega$	$\pm 50$ $\pm 100$ $\pm 200$	$\pm 50$ $\pm 100$ $\pm 200$	$\pm 50$ $\pm 100$ $\pm 200$	$\pm 50$ $\pm 100$ $\pm 200$

- Operating Voltage: 420V Max.
- Dielectric Strength: 1800VAC
- Insulation Resistance: 10G $\Omega$  min.

## Derating Curve



## Part Numbering

TR	50	J	B	D	1001	-H
Product Type	Power	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Resistance	Code
	50: 50 Watts	D: ±0.5% F: ±1% J: ±5% K: ±10%	B: Bulk	D: ±50 E: ±100 F: ±200 G: ±300 -: No Specified	R100: 0.1Ω 0100: 10Ω 4700: 470Ω 1001: 1000Ω 1002: 10000Ω	H: Hole

## Environmental Characteristics

Item	Requirement	Test Method
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
- Maximum Torque: 0.9 N-m
- Without a Heat Sink, When in Free Air at 25°C, the TR50-H is Rated for 2.25W.
- 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.