

## Data Sheet

Customer: \_\_\_\_\_

Product: Power Resistors – TR50-H Series \_\_\_\_\_

Size : TO-220 \_\_\_\_\_

Issued Date: 14-July-2023 \_\_\_\_\_

Edition: Ver. 2 \_\_\_\_\_

### Record of change

Date	Ver.	Description	Page
30-Nov.-2017	1		
14-July-2023	2	Parameters updated	1 ~ 2

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14-July-2023	14-July-2023	14-July-2023	
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# TO-220 Power Resistors

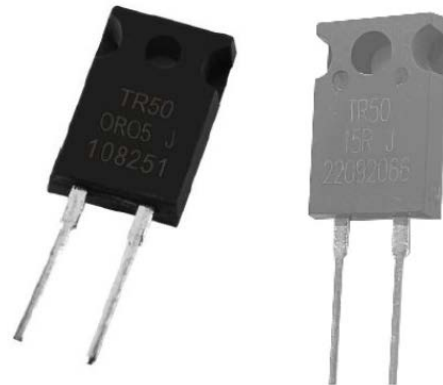
# (TR50-H Series)

## ■ Features

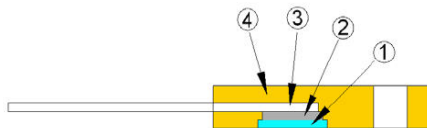
- 30 Watts at 25°C case temperature heat sink mounted
- To-220 style power package
- Single screw mounting to heat sink
- Molded case for protection and easy to mount
- Electrically isolated case
- Non-Inductive design

## ■ Applications

- Gate Resistors in Power Supplies
- Snubbers
- Load and Dumping Resistors in CRT Monitors
- Automated Machine Controller
- Terminal Resistance in RF Power Amplifier
- Voltage Regulation
- Low Energy Pulse Loading
- UPS

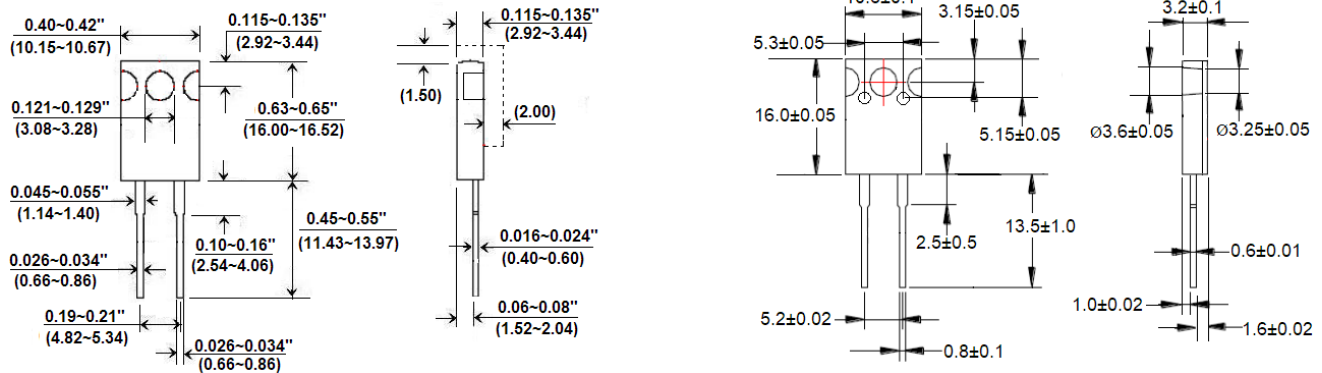


## ■ Construction



1	Alumina Substrate	3	Lead
2	Resistor Layer	4	Molding

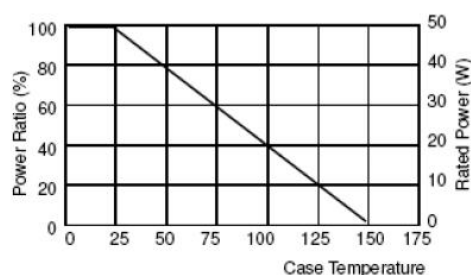
## ■ Dimensions (Unit:mm/inch)



※ Two styles (no round holes and 2 small round holes) side by side

Type	Weight (g/1000pcs)	Packaging (Tube)
TR50	1290	50 pcs

## ■ Derating Curve



# TO-220 Power Resistors

# (TR50-H Series)

## Part Numbering

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

## Electrical Characteristics Specifications

Item Type	Resistance Range				TCR (ppm/°C)
	±0.5%	±1%	±5%	±10%	
TR50	-	0.05Ω - 1Ω			No Specified
	-	>1Ω - 3Ω			±300
	-	>3Ω - 10Ω			±100 ±200
	>10Ω - 10KΩ				±50 ±100 ±200
	>10KΩ - 1MΩ				±200 ±300

- ※Operating Voltage: 420V Max.
- ※Dielectric Strength: 1800VAC
- ※Insulation Resistance: 10GΩ Min.
- ※Operating Temperature Range: -65°C ~ +150°C

## Environmental Characteristics

Test 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%	2times rated power with applied voltage not to exceed 1.5times 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., RCWV for 1000 hrs with 1.5hrs "ON" and 0.5hrs "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 Nm
- ※When in Free Air at 25°C, the TR30 is rated for 3W
- ※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
- ※Storage Temperature: 25±5°C ; Humidity: <75% RH