

Data Sheet

Customer: _____

Product: Power Resistors – TR50-H Series

Size : 50W TO-220

Issued Date: 05-Dec.-2024

Edition: Ver. 3

Record of change

Date	Ver.	Description	Page
30-Nov.-2017	1		
14-July-2023	2	Parameters updated	1,2
05-Dec.-2024	3	Revise Electrical Characteristics Specifications	2

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Prepared by	Checked by	Approved by	Accepted by (customer)
05-Dec.-2024	05-Dec.-2024	05-Dec.-2024	
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TO-220 Power Resistors

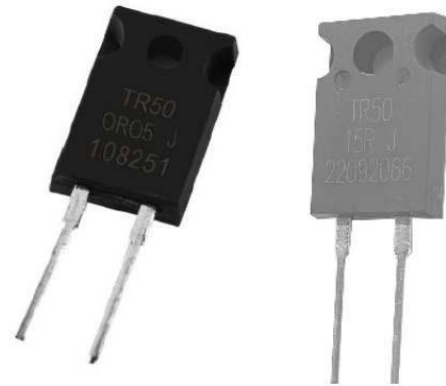
(TR50-H Series)

■ Features

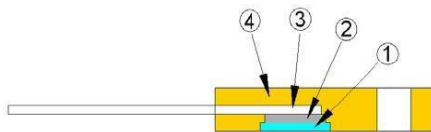
- 50 Watts at 25°C case temperature heat sink mounted
- TO-220 style power package
- Single screw mounting to heat sink
- Molded case for protection and easy to mount
- Electrically isolated case
- Non-Inductive design

◆ Applications

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

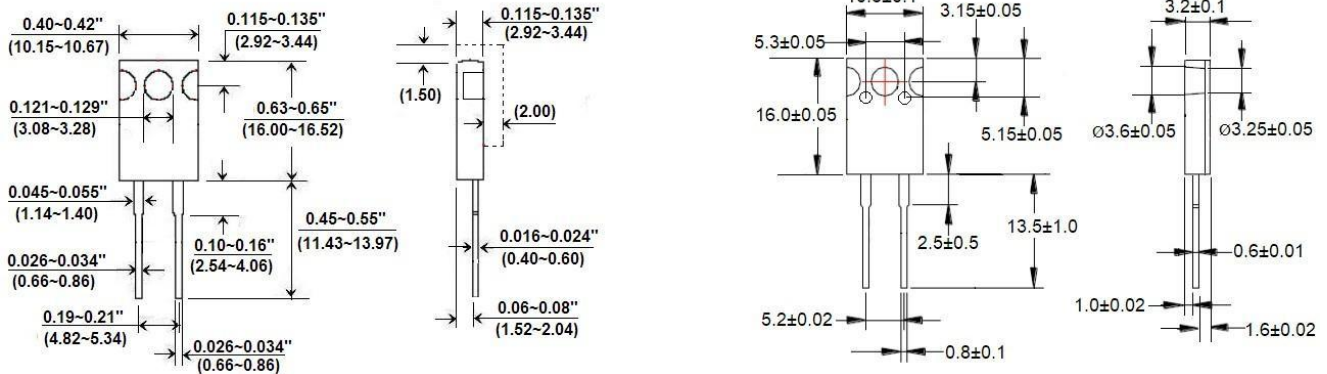


◆ Construction



1	Alumina Substrate	3	Lead
2	Resistor Layer	4	Molding

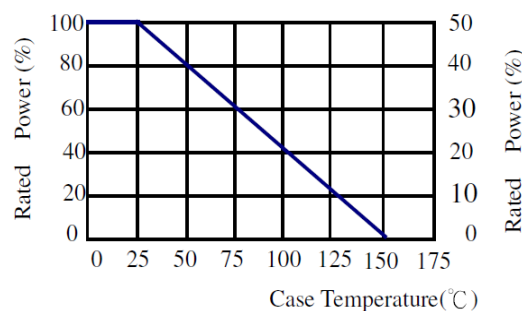
◆ Dimensions (Unit:mm/inch)



※ 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

TR	50	J	U	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%	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 - 0.1Ω		No Specified
	-	≥0.1Ω - 1Ω			No Specified
	-	≥1Ω - 5Ω			±100 ±200 ±300
	≥10Ω - 100KΩ				±50 ±100 ±200
	≥5Ω - 10Ω				±100 ±200 ±300

※Operating Voltage: 350V 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%	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., RCWV 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: 0.9N-m

※When in Free Air at 25°C, the TR50-H 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