

## Data Sheet

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

Product: Power Resistors – TR30 Series \_\_\_\_\_

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

Issued Date: 12-July-2023 \_\_\_\_\_

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

### Record of change

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

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12-July-2023	12-July-2023	12-July-2023	
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# TO-220 Power Resistors

# (TR30 Series)

## ■ Features

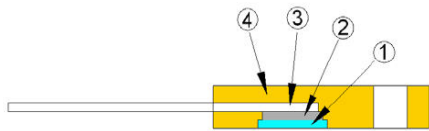
- 30 Watts at 25°C case temperature heat sink mounted
- To-220 style power package
- Single screw mounting to heat sink
- Molded case for protection and easy to mount
- Electrically isolated case
- Non-Inductive design

## ■ 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

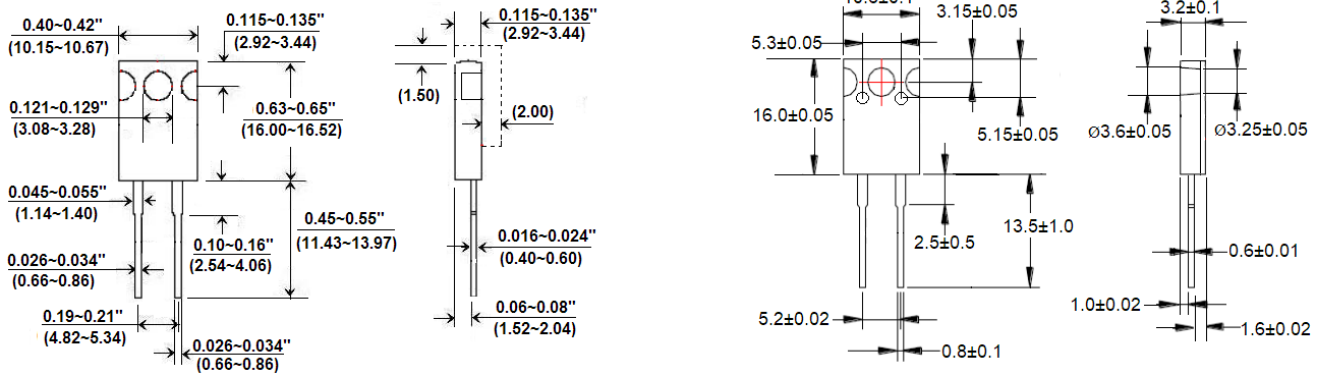


## ■ Construction



1	Alumina Substrate	3	Lead
2	Resistor Layer	4	Molding

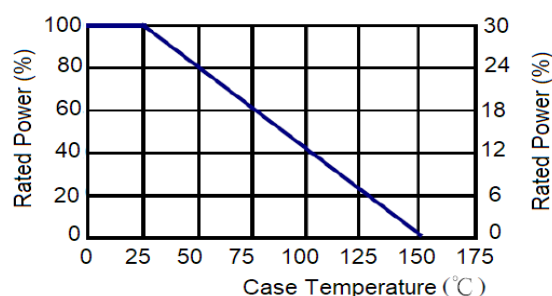
## ■ Dimensions (Unit:mm/inch)



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

Type	Weight (g/1000pcs)	Packaging (Tube)
TR30	1155	50 pcs

## ■ Derating Curve



# TO-220 Power Resistors

# (TR30 Series)

## ■ Part Numbering

<b>TR</b>	<b>30</b>	<b>J</b>	<b>U</b>	<b>D</b>	<b>1001</b>
Product Type	Power	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Resistance
	30:30 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

## ■ Electrical Characteristics Specifications

Item Type	Resistance Range				TCR (ppm/°C)
	±0.5%	±1%	±5%	±10%	
TR30	-	-	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 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

※Storage Temperature: 30±5°C ; Humidity: <65% RH