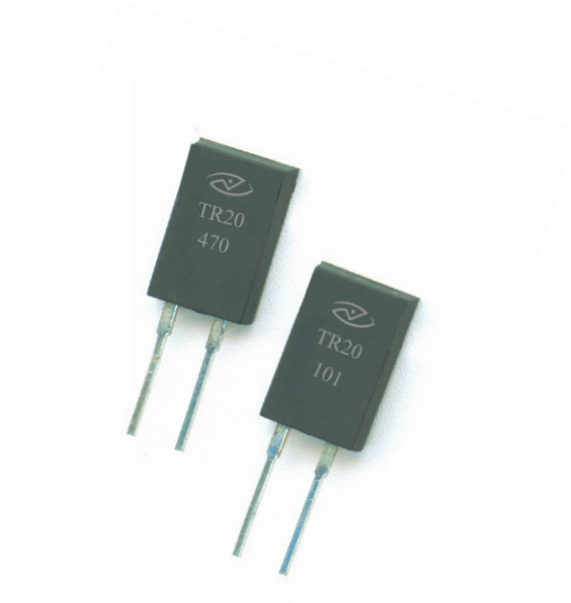


**POWER - Resistors**

**TR 20**



official distributor of



## POWER - Resistors

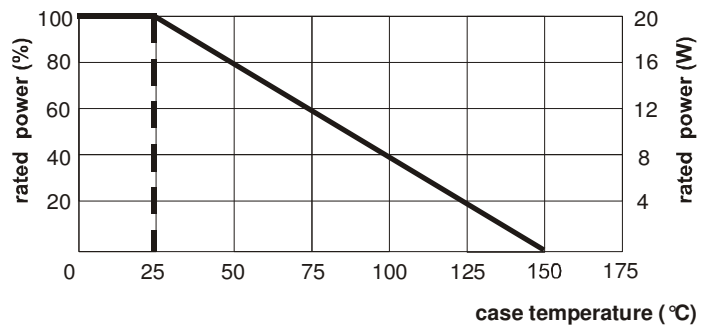
# TO-220 Power Resistors TR20 Series

### ► Features:

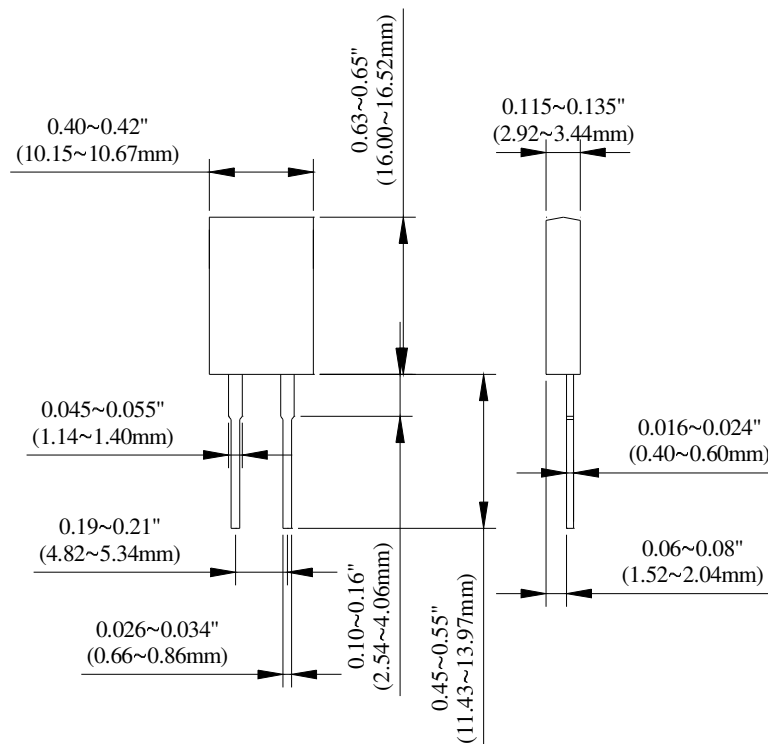
- 20 Watt at 25°C Case Temperature Heat Sink Mounted
- TO-220 Style Power Package
- Molded Case for Protection and Easy to Mount.
- Isolated Case.
- Non Inductive.

### ► Applications:

- High Speed Switching Power Supplies.
- Snubber Circuits.
- Load Resistor for Pulse Generators.
- Voltage Regulation.
- VHF Amplifiers.



### ► Dimensions



## POWER - Resistors

### ► Ordering Information:

TR   20   J   B   D   1001  
 (1)   (2)   (3)   (4) (5)   (6)

(1) Type: TR=TO-220 Power Resistors

(2) Power : 2=20 Watts

(3) Tolerance: D=0.5%, F=1%, G=2%, J=5%, K=10%

(4) Packaging Style: T=Tube, B=Bulk

(5) TCR: -= Not specified, D=±50ppm/°C; E=±100ppm/°C; F=±200ppm/°C; G=±300ppm/°C

(6) Resistance: 0R10=0.1Ω, 0100=10Ω, 4700=470Ω, 1001 =1KΩ, 1002=10KΩ

### ► Electrical Characteristics Specifications:

Resistance Range	Resistance Tolerance	TCR (PPM/°C)
0.05Ω ~ 0.1Ω	±5% ±10%	- (No Specified)
>0.1Ω ~ 1Ω	±5% ±10%	- (No Specified)
>1Ω ~ 3Ω	±1% ±5% ±10%	±300
>3Ω ~ 10Ω	±1% ±5% ±10%	±100 ±200
>10Ω ~ 10KΩ	±0.5% ±1% ±5% ±10%	±50 ±100 ±200

**\*electronic sensor + resistor GmbH is Capable of Manufacturing the Following Options Based on Customer's Requirement.:**

- Operating Voltage: 350V Max.
- Dielectric Strength: 1800VAC
- Insulation Resistance: 10GΩ min.
- Working Temperature Range: -65°C to +150°C
- Resistance Value < 1Ω is Available

## POWER - Resistors

### ► Environmental Characteristics:

Test Item	Specification	Test Method
Temperature Coefficient of Resistance	As spec.	Referenced to 25 °C, $\Delta R$ taken at +105 °C
Short Time Overload	$\Delta R \pm 0.3\%$	2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds,
Load Life	$\Delta R \pm 1.0\%$	MIL-PRF-39009D, 4.8.13 2,000 hours at rated power.
Humidity (Steady State)	$\Delta R \pm 0.5\%$	MIL-STD-202F, Method 103B, 40 °C, 90~95%RH; RCWV 1.5hours ON, 0.5hours OFF total 1000~1048 hours
Thermal Shock	$\Delta R \pm 0.3\%$	MIL-STD-202F, Method 107G -65 °C ~ 150 °C, 100 cycles
Terminal Strength	$\Delta R \pm 0.2\%$	MIL-STD-202F, Method 211, Cond. A (Pull Test) 2.4N,
Vibration, High Frequency	$\Delta R \pm 0.2\%$	MIL-STD-202, Method 204, Cond. D,

- Lead Material: Tinned Copper.
- Without a Heat Sink.
- When in Free Air at 25 °C, the TR20 is rated for 3W.
- Derating for Temp. Above 25 °C is 0.018W/°K.
- 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.