

POWER RESISTOR

TR TYPE

FEATURES

- Power rating 20W/30W/35W/50W at 25 °C heatsink mounted.
- TO-220 style power package.
- Single screw mounting to heat sink only for 30W and 35W.
- Molded case for protection and easy for mounting.
- Isolated case.
- Non-inductive design.

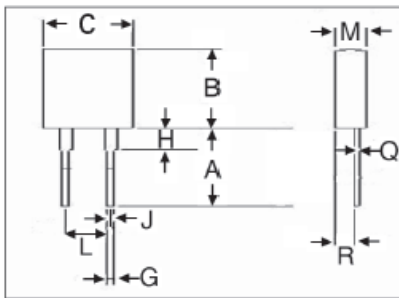
APPLICATIONS

- Works as gate resistors in power supplies.
- Snubber Circuits.
- Load and dumping resistors in CRT monitors.
- Terminal resistance in RF Power A.
- Voltage regulation.
- Low energy pulse loading.
- UPS

DIMENSIONS

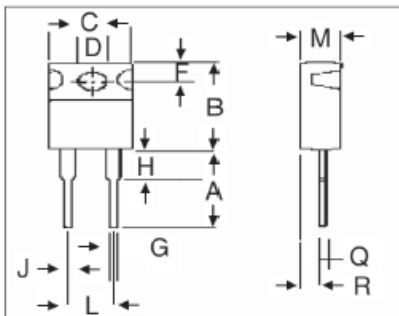
TR20, TR50 TYPE

Unit : mm



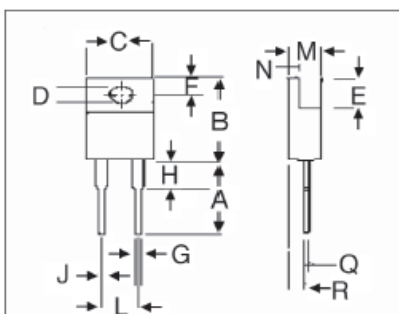
	MIN.	MAX.		MIN.	MAX.		MIN.	MAX.
A	11.43	13.97	H	2.54	4.06	Q	0.40	0.60
B	16.00	16.52	J	0.66	0.86	R	1.52	2.04
C	10.15	10.67	L	4.82	5.34			
G	1.14	1.40	M	2.92	3.44			

TR30 TYPE



	MIN.	MAX.		MIN.	MAX.		MIN.	MAX.
A	11.43	13.97	F	2.92	3.44	L	4.82	5.34
B	16.00	16.52	G	1.14	1.40	M	2.92	3.44
C	10.15	10.67	H	2.54	4.06	Q	0.40	0.60
D	3.08	3.28	J	0.66	0.86	R	1.52	2.04

TR35 TYPE



	MIN.	MAX.		MIN.	MAX.		MIN.	MAX.
A	12.70	14.70	F	2.85	3.05	M	4.06	4.82
B	14.50	15.00	G	1.17	1.37	N	1.20	1.40
C	9.91	10.41	H	-	4.00	Q	0.55	0.70
D	3.55	3.75	J	0.70	0.86	R	2.05	2.25
E	5.85	6.35	L	4.83	5.33			

ELECTRICAL CHARACTERISTICS SPECIFICATIONS

RESISTANCE RANGE	RESISTANCE TOLERANCE	TCR (PPM/°C)
0.1Ω ~1Ω	±1.0% ±5.0% ±10%	—
1Ω ~3Ω	±1.0% ±5.0% ±10%	±300
3Ω ~10Ω	±1.0% ±5.0% ±10%	±100 ±200
11Ω ~10KΩ	±0.5% ±1.0% ±5.0% ±10%	±50 ±100 ±200

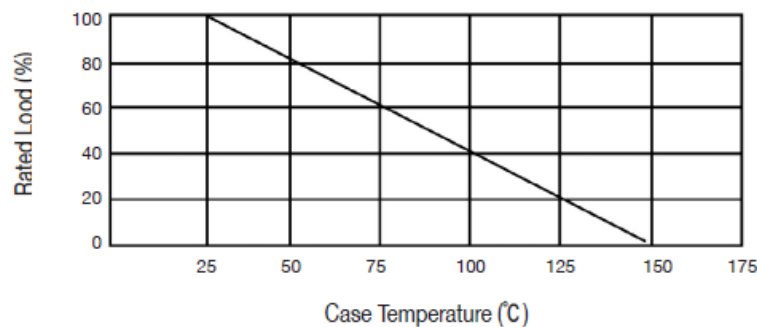
* Operating Voltage : 350V Max.

* Dielectric Strength : 1800VAC

* Insulation Resistance : 10GΩ min

* Working Temperature Range : -65°C to +150°C

* Resistance Value < 1Ω is available

DERATING CURVE**ENVIRONMENTAL CHARACTERISTICS**

TEST	TEST METHOD	LIMITS
TEMPERATURE COEFFICIENT OF RESISTANCE	AS SPECIFICATION	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%	MIL-R-39009, 2,000 hours at rated power.
HUMIDITY (STEADY STATE)	ΔR±0.5%	MIL-STD-202F, Method 103B, 40°C, 90~95% RH, RCWV 1.5hours ON, 0.5 hours OFF. Total 1000~1048 hours.
THERMAL SHOCK	ΔR±0.3%	MIL-STD-202, Method 107G, -65°C ~ +150°C, 100 cycles
TERMINAL STRENGTH	ΔR±0.2%	MIL-STD-202, Method 211, Cond.A (Pull Test) 2.4N.
VIBRATION, HIGH FREQUENCY	ΔR±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, TR30 is rated for 2.25W, TR35 is rated for 2.5W and TR50 is rated for 3W.

* The case temperature is to be used for the definition of the limit for power applied.

* The case temperature must be measured by contacting thermocouple to the center of the designed heat sink which is mounted on the component.

* Thermal grease should be applied properly.