TPX600L

RoHS COMPLIANT

SOT227 600W POWER RESISTORS

Rated 600W high power at 80℃ temperature of the case. The smallest among our conventional SOT227, and its 10mm thickness enable to fit to even small mounting space. UL94-V0 certified resin case.

Applications : Power electronics, Industrial equipment, Power supplies, High voltage pulse generating circuit, High voltage pulse power source, Divider resistor, Filtering resistor, Breeder resistor.

GENERAL SPECIFICATIONS

Model	Rated Power *	Rated Power (At free air)	Resistance Range	Tolerance **	Operating Temp.
TPX600L	600W	5W	10Ω~1KΩ (E24 and 2.5, 5.0)	J [±5%]	-55℃ to +155℃

* When the case temperature : -55℃ to +80℃
For over +80℃, follow the derating curve at the bottom of this page.
** Optional : F (±1%) (F : for part number)

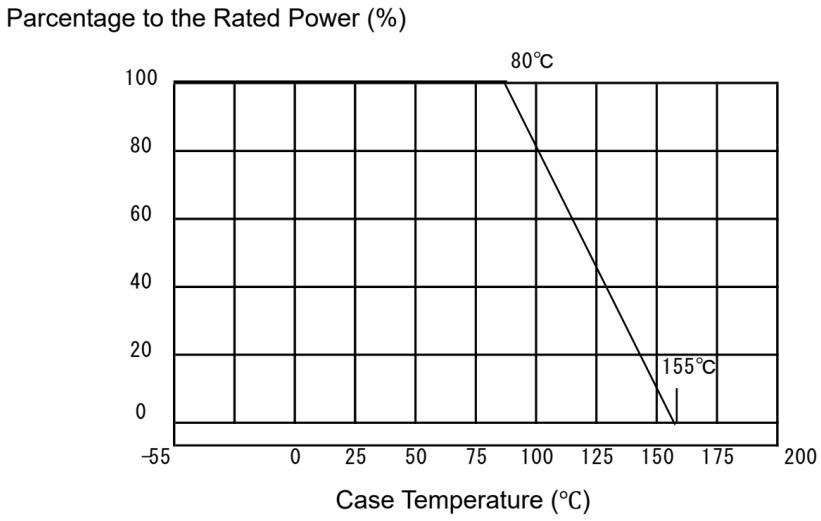
CHARACTERISTICS

Limiting Element Voltage	1,000V or E=√P×R	Either of smaller value. "P" : Rated power, "R" : Resistance value
TCR	±50 ppm/℃ (C)	For -55℃ to +155℃
Case Temperature Range	-55℃ ~ +80℃	Temperature of the case
Insulation Voltage	8,000Vac	60 seconds – 0.5mA – 50Hz
Insulation Resistance	Over 1,000MΩ	Between inductors and flange which are inside electrical wires
Heat Resistance	0.10 ℃/W	Between resistance and flange
Storage Temperature Range	-55℃ ~ below +70℃	A usual warehouse environment is preferable
Preservation Maximum Humidity	75% relative humidity	A usual warehouse environment is preferable
Mounting Torque, Screws	1.0Nm±0.1Nm	M4 screws
Load Life Rated	±1.00%	25℃, Putting rated power for 90min. ON, 30min. OFF, Repeating 1,000hours
Temperature Cycle	±1.00%	(-55℃ for 30min. +155℃ for 30min.)×5cycles
Moisture Tolerance	±0.25%	85℃, 85%RH, DC0.1W, 1,000hours
Short-time Overload	±0.25%	2.5times as rated power, for 5seconds
Vibration Resistance	±0.25%	Following JIS C 60068-2-6. Vibrating range : 10Hz-54Hz, Amplitude 0.75mm or 100m/sec. for 10cycles 90min. x-y-z direction

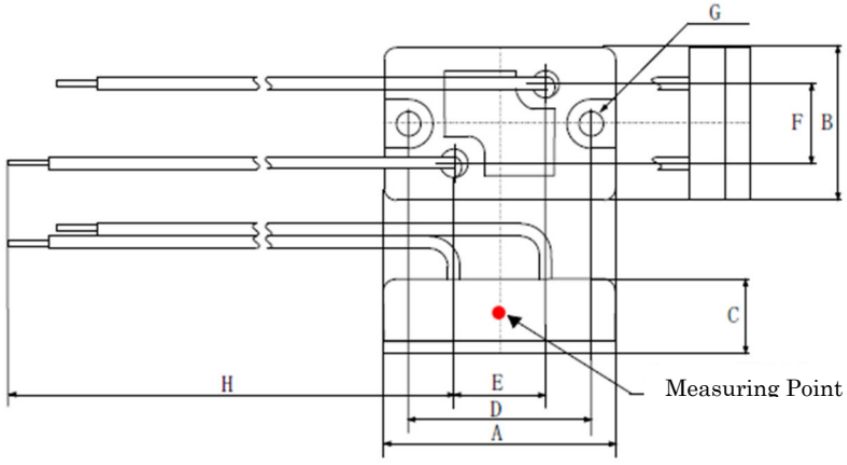
※ Resistance value is available following modified E24, +E24 (Any resistance values are available optionally)

1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.5	2.7	3.0	3.3
3.6	3.9	4.0	4.3	4.7	5.0	5.1	5.6	6.2	6.8	7.5	8.0	8.2	9.1

DERAING CURVE



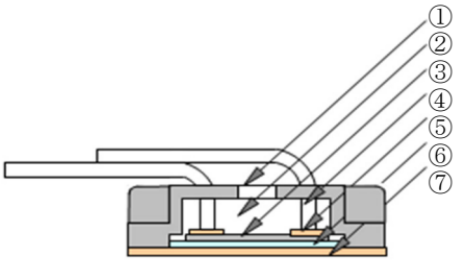
DIMENSIONS [mm]



A	B	C	D	E	F	G	H	Weight
38±0.5	25±0.5	10±0.5	30±0.2	15±0.5	13±0.5	Ø4.30±0.1	120±10	Approx. 31.5g

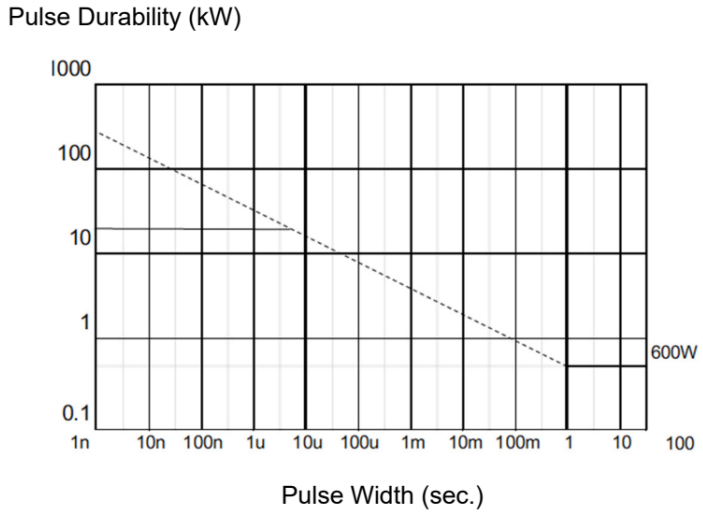
※ Terminal lengths(H) are measured from the joint between the terminal and the case. (Available at the maximum 250mm)

CONSTRUCTION



No.	Part	Material
①	Case	Phenol Resin UL94 V-0
②	Filling	Silicon Resin UL94 V-0
③	Resistive Film	Resistance Thin Film
④	Insulated Wire	Silicone Rubber UL94 V-0
⑤	Plate	Copper Electrode
⑥	Substrate	Aluminum Nitride Substrate
⑦	Flange	Copperplate, Nickel Plating

PULSE ENERGY DURABLILITY



PRECAUTIONS FOR USE

① Using within one year after delivery is recommended based on the room within Storage temperature range and Preservation maximum relative humidity.
② Using within one year after unsealing.
③ Please attach this resistor to a proper heatsink and use them in free-air or water-cooling condition. When the resistors are not attached to any heatsink, please use them at below 5W with room temperature. When the resistors are attached to heatsinks, consider the heat conducting ratio on contacting surfaces so the temperature on surfaces of the heatsink should be maintained, and moreover using heat conducting grease is recommended. This resistor does not need insulating sheet to use because the resistor itself and the metal flange at the bottom are insulated each other.
④ All the causes of breaking this resistor are the resistor burn-out and open circuit by overload, insufficient cooling, and over surge current.
· As the product performance possibly be affected, please avoid using this resistor under the following conditions;
· Direct sunlight, outdoor exposure, in the dusty air.
· Sea breeze、the area filed with corrosive gas, such as Cl_2, NO_2, NH_3, H_2S, and SO_2.
· In the environment where has strong static electricity/electromagnetic wave.
· In the location close by heat generating components.
· Under the mounting condition that the resistor's flange is away from the cooling system such as heatsinks, sealed with resins, and coding.
· Dewing all the time.
⑤ Please be careful when handling the resistor because impacts of dropping or else may break the item.
⑥ This resistor is not designed as for the radiation-resistant nor the vacuum environment.
⑦ Please implement the test and evaluation for this resistor on condition being mounted on the electronics.
⑧ When a transitional load such as a pulse is applied, please be sure to implement the test and evaluation on condition being mounted on the electronics. Additionally, please be sure to use this resistor applying lower power than its rated power because when the larger loads than its rated is applied on condition that steady loads are applied, the product performance and/or reliability will possibly be declined.
⑨ There is no guarantee for the failure caused by the deviated use from this notice.

ODERING PROCEFURE EXAMPLE

Model#	TCR	Resistance	Tolerance	Package
TPX600L	C (50ppm/℃)	100Ω	J (±5%)	Z05 (20pcs/Tray)