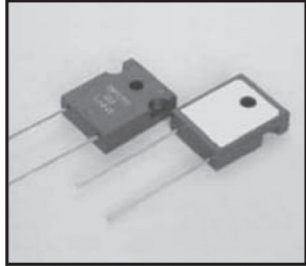


Power Thin Film Resistors(TO247)

This series of power film resistors offers a high power handling capability in a compact, non-inductive format. Both the TNP50S and the TNP100S are TO-247 models handling 100W and 140W respectively, depending on the ohmic value. This entire range is constructed using high thermal conduction alloys resulting in excellent heat transfer when mounted on heatsinks. Applications for these models include: UPS, power unit of machines, motor control, drive circuits, automotive, measurements, industrial computers and high frequency electronics.

GENERAL SPECIFICATIONS

Model	Resistance Range [Ω]	TCR [ppm/C]	Tolerance(%)	Rating Power[W]
TNP50S	0.01 ~ 0.09	±250	J [±5]	100W 3W(in free air)
	0.1 ~ 9.1	±100	F [±1], J [±5]	
	10 ~ 51K	±50	F [±1]	
TNP100S	0.01 ~ 0.09	±250	J [±5]	140W 2W(in free air)
	0.1 ~ 9.1	±100	F [±1], J [±5]	
	10 ~ 51K	±50	F [±1]	

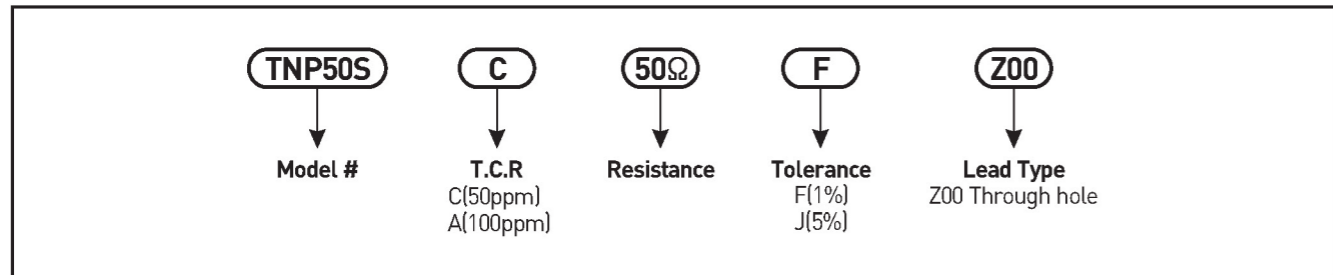


CHARACTERISTICS

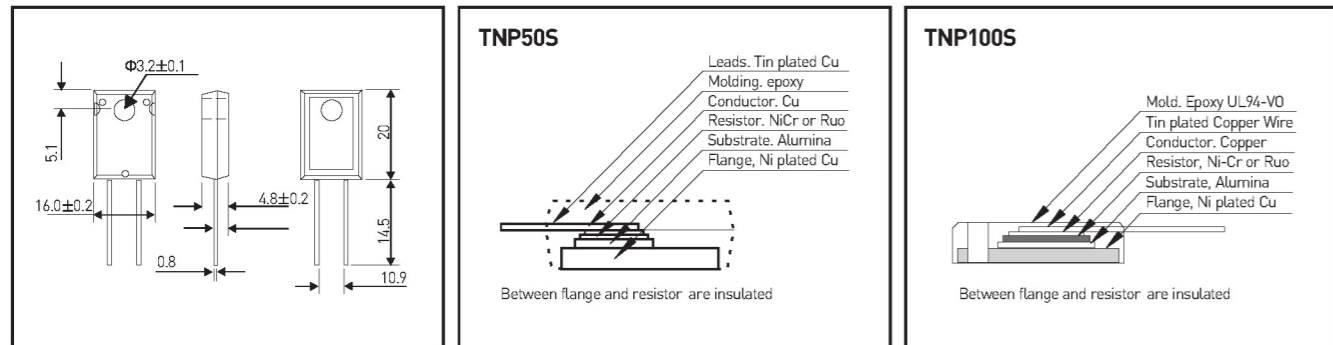
Values in [] mean change in Ω after test

Operation Temp. Range	-55°C ~ +155°C	
Insulation Resistance	[Over 1000 MegΩ]	TNP 100S: Between terminals and metal back plate. TNP 50S: Between terminals and flange
Dielectric Withstanding Voltage	AC 2000V	terminal and flange for 60 sec, 1mt
Moisture Resistance	±[1.0 %+0.05Ω]	40°C, 90-95% RH, DC 0.1W, 1000hours.
Soldering Heat	±[0.25%+0.05Ω]	350±5°C, 3 sec.
Solderability	[Over 3/4 of round]	230±5°C, 3 sec.
Vibration	±[0.25%+0.05Ω]	IEC60068-2-6
Max. Working Voltage	500V or E = √P·R	
Temperature Cycle	±[0.25%+0.05Ω]	-55°C, 30 minutes, +155°C 30 minutes, 5cycles.
Load Life	±[1%+0.05Ω]	25°C, 90 minutes on, 30minutes off, 1000hours.

ORDERING PROCEDURE EXAMPLE

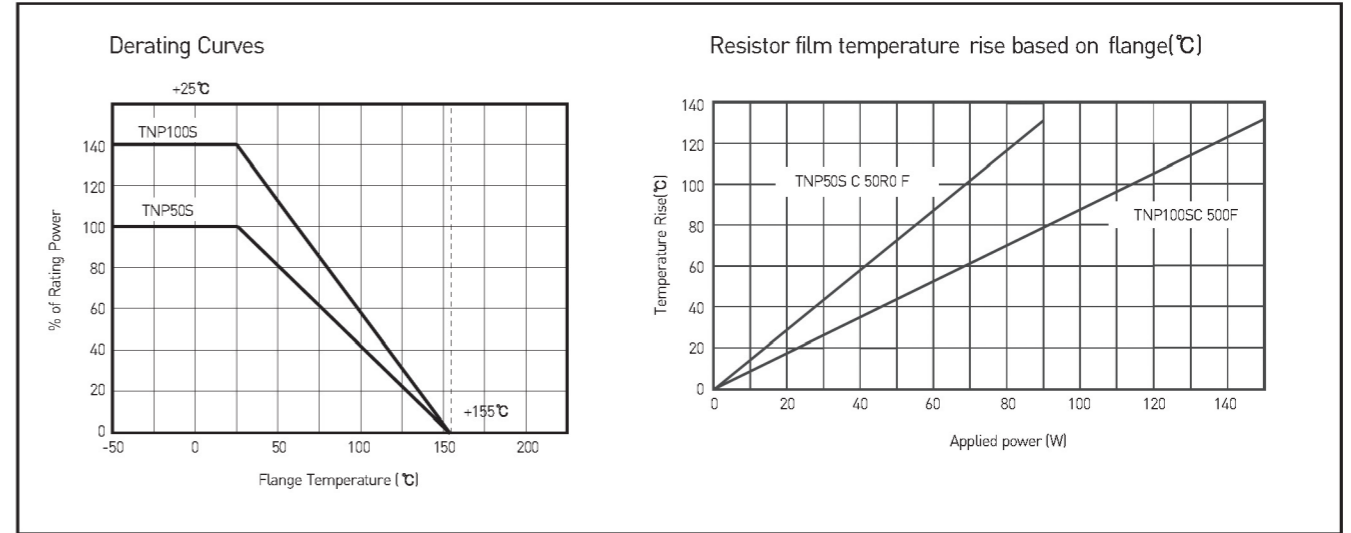


DIMENSIONS [mm] AND STRUCTURE

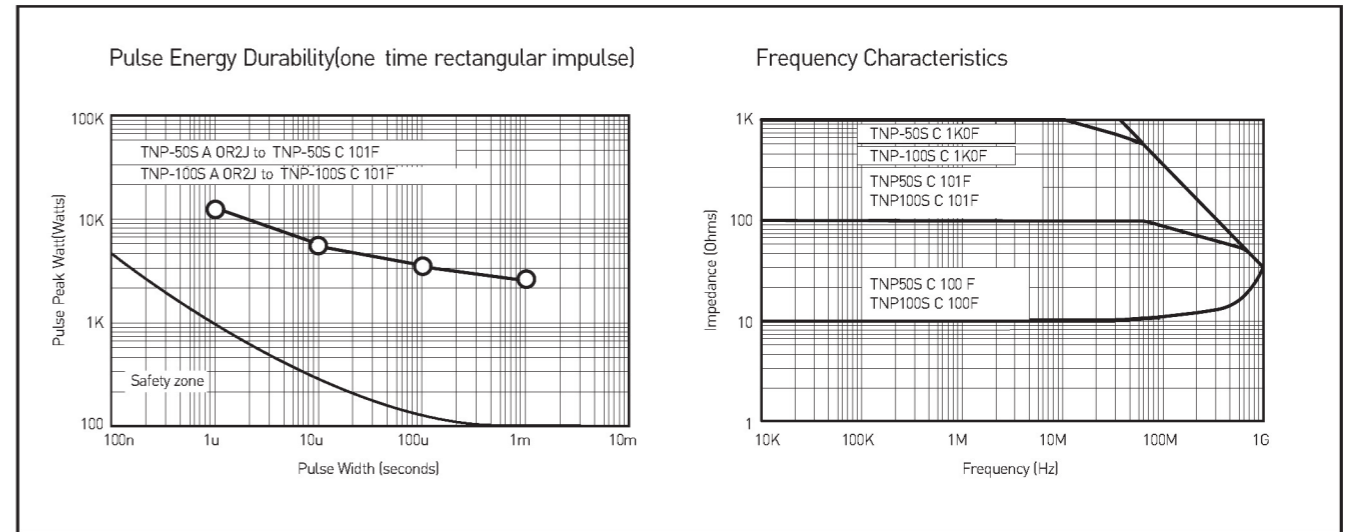


*TNP50S and TNP100S have the same dimensions.

DERATING CURVES AND TEMPERATURE RISE CURVES



CHARACTERISTIC CURVES



- Note:
- Insulating material is unnecessary between flange and heat-sink, flange and resistor is separated by alumina substrate.
 - Resistance measurement shall be made at a point 2.54mm±1.0mm from the resistor body.
 - TCR of low resistance will be increased as 300ppm/0.02ohm, 200ppm/0.05ohm, 140ppm/0.1ohm and 80ppm/0.2ohm typically. Testing point is at 2.54mm from bottom of molding of terminals.
 - Test method is IEC60068-2-6, and specification is sine sweep wave form, 100Hz-2000Hz, 10 cycles, amplitude 0.75mm or 100m/s, 90minutes. direction x-y z, Amplitude 0.75mm will be applied under break point Frequency (about 60Hz) and 100m/s over break point.
 - When mounting resistor on heat-sink by screw, clip and pressure strip with using heat conduction grease on back side of resistor are recommended. Recommended screw torque is 0.5-0.6Nm. In case of screw mount, ISO M3 screw is necessary, 1/8" screw cannot be acceptable.
 - Standard packaging is anti-static PE tray, which contains 50pcs/tray.