Tel: 82-32-817-4325
Fax: 82-32-817-4329

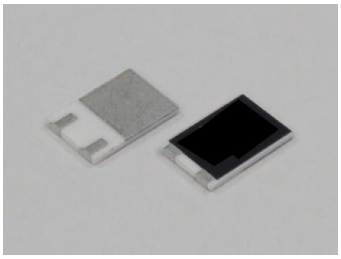
Resistors And
Resistive Applications

RoHS COMPLIANT

TNP-25, TNP-45 SMD SURGE PROTECTION RESISTORS

Features and Applications

Compact and low-profile SMD surge protection power film resistors: These resistors are designed to be exceptionally compact, boasting a low profile and optimal weight. Their surface-mount design makes them ideal for a range of applications. Notably, they exhibit excellent RF characteristics, making them advantageous for high-speed pulse operations. They find application in various fields including power electronics, power consumption meters, electronic load equipment, battery chargers, automotive electronics, and more.



■ GENERAL SPECIFICATIONS

Model	*Power Rating [W]	Resistance Range [Ω]	Resistance Tolerance [%]
TNP-25	25	0.1 – 51K	F [±1]
TNP-45	45		

* -55 °C to 25 °C backing metal temperature.

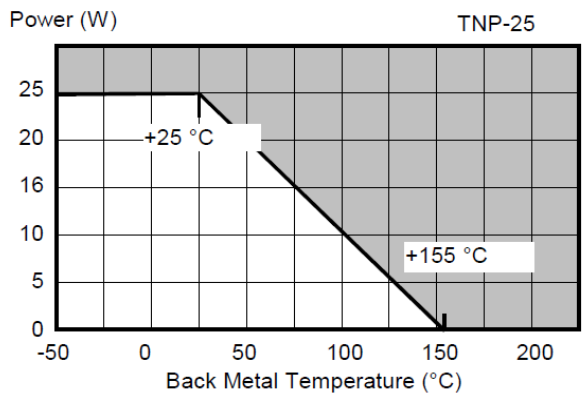
■ CHARACTERISTICS

Values in [ ] mean changed in Ω after test

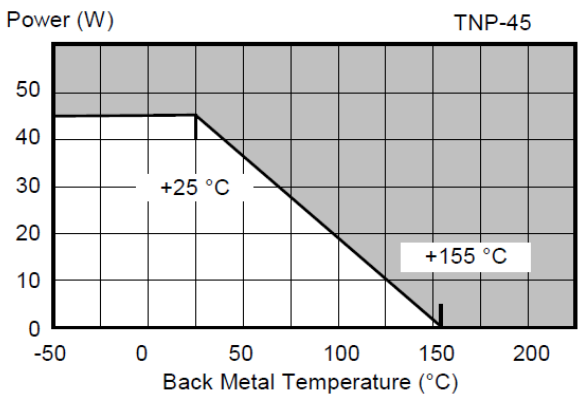
Operation Temperature Range		-55℃~+155℃
Insulation Resistance		1000MΩ minimum
Dielectric Withstanding Voltage		AC 1500V for 1minute; Maximum leakage current : 1mA
Temperature Coefficient		±100ppm/℃ maximum
Short Time Overload	TNP-25 : 50W TNP-45 : 50W	2.0XPower rating, 5seconds at 25℃
Temperature cycle	±[0.25%±0.05Ω]	-55℃, 30min, +155℃ 30min, 5cycles
Humidity	±[1.0%±0.05Ω]	40℃, 90-95% RH, DC 0.1W, 1000hours
Vibration	±[0.25%±0.05Ω]	IEC 60068-2-6
Load Life	±[1.0%±0.05Ω]	25 °C, 90 min. ON, 30 min. OFF, 1000h
Soldering Heat	±[0.1%±0.05Ω]	350+/-5 °C, 3seconds,

■ DERATING CURVES

TNP-25

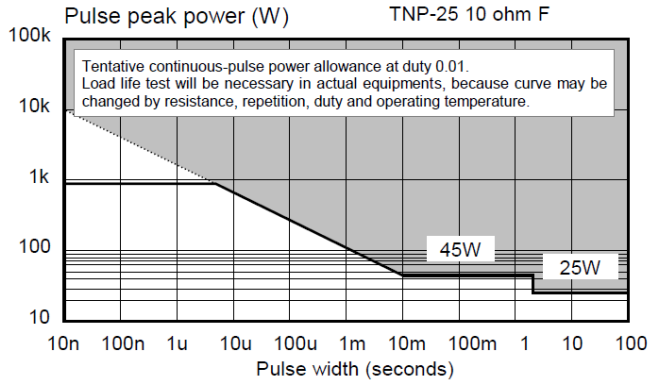


TNP-45

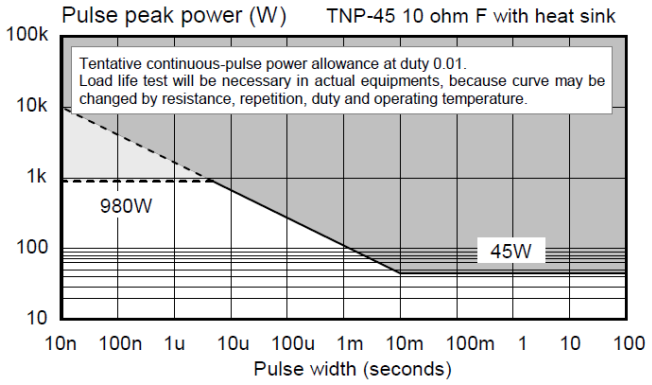


■ PULSE ENERGY DURABILITY

TNP-25

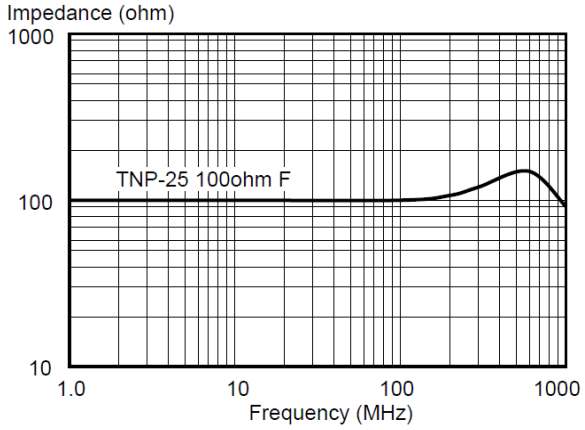


TNP-45

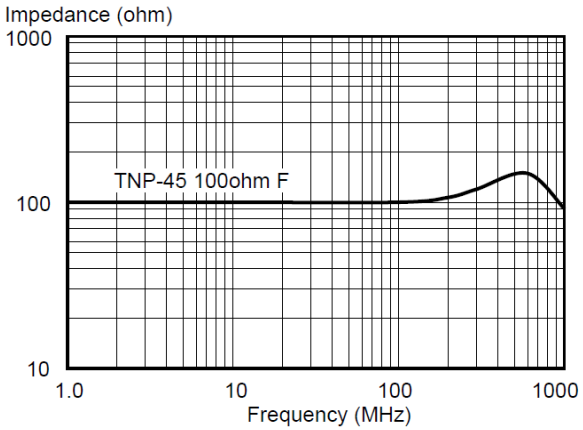


■ FREQUENCY CHARACTERSTICS

TNP-25

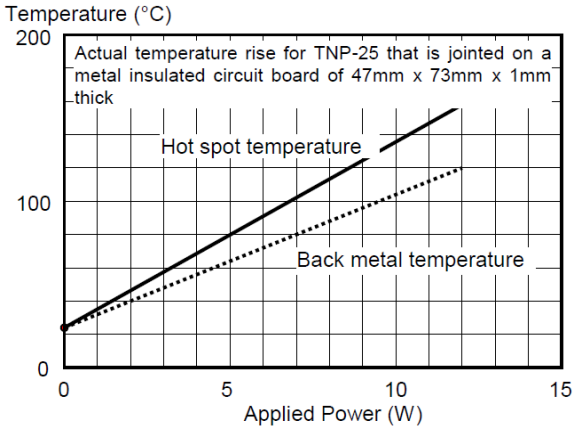


TNP-45

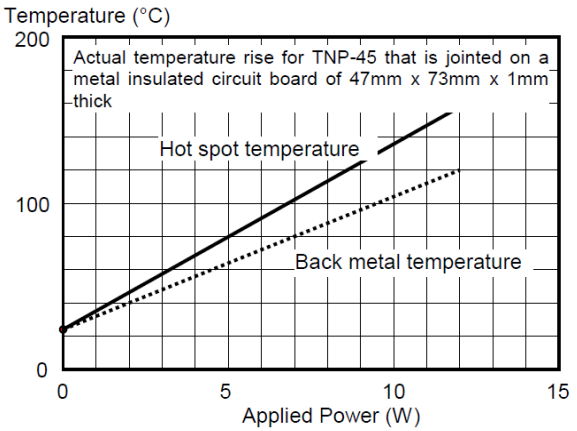


■ TEMPERATURE RISE

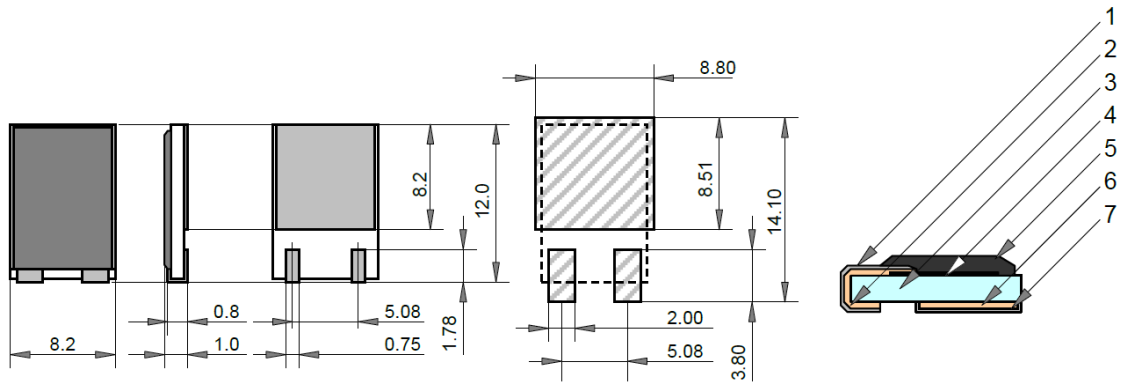
TNP-25



TNP-45



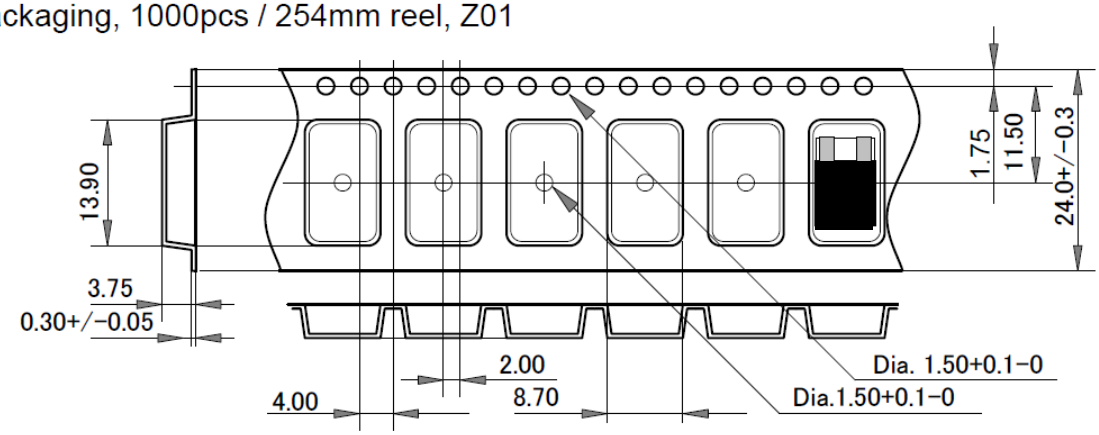
■ DIMENSIONS[mm] AND MATERIALS



	substance	material
1	terminals	Pd-Ag film, Ni plating & Tin plating
2	terminals	Copper, Ni plating & Tin plating
3	substrate	ALO 1mm thickness
4	resistor	Ni-Cr alloy
5	molding	Epoxy resin
6	heat sink	Pd-Ag film, Ni plating & Tin plating
7	heat sink	Pd-Ag film, Ni plating & Tin plating

■ TAPE PACKAGING DIMENSIONS [mm]

Tape Packaging, 1000pcs / 254mm reel, Z01



■ ORDERING PROCEDURE EXAMPLE

TNP-25	10R	F	Z01
Model #	*Resistance	Tolerance F : ±1%	Tape reel

* Standard resistance value.

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