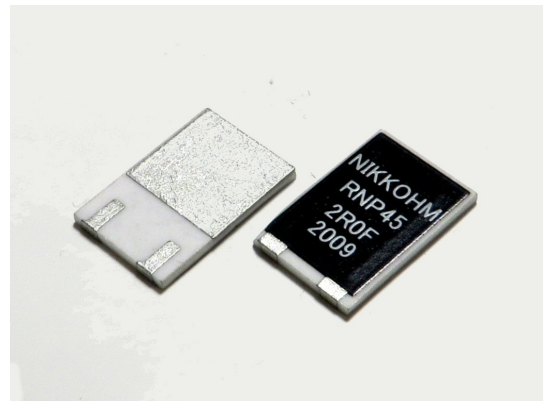


**45W DPAK-TO252 STYLE
SMD SURGE PROTECTION RESISTOR**

RNP-45

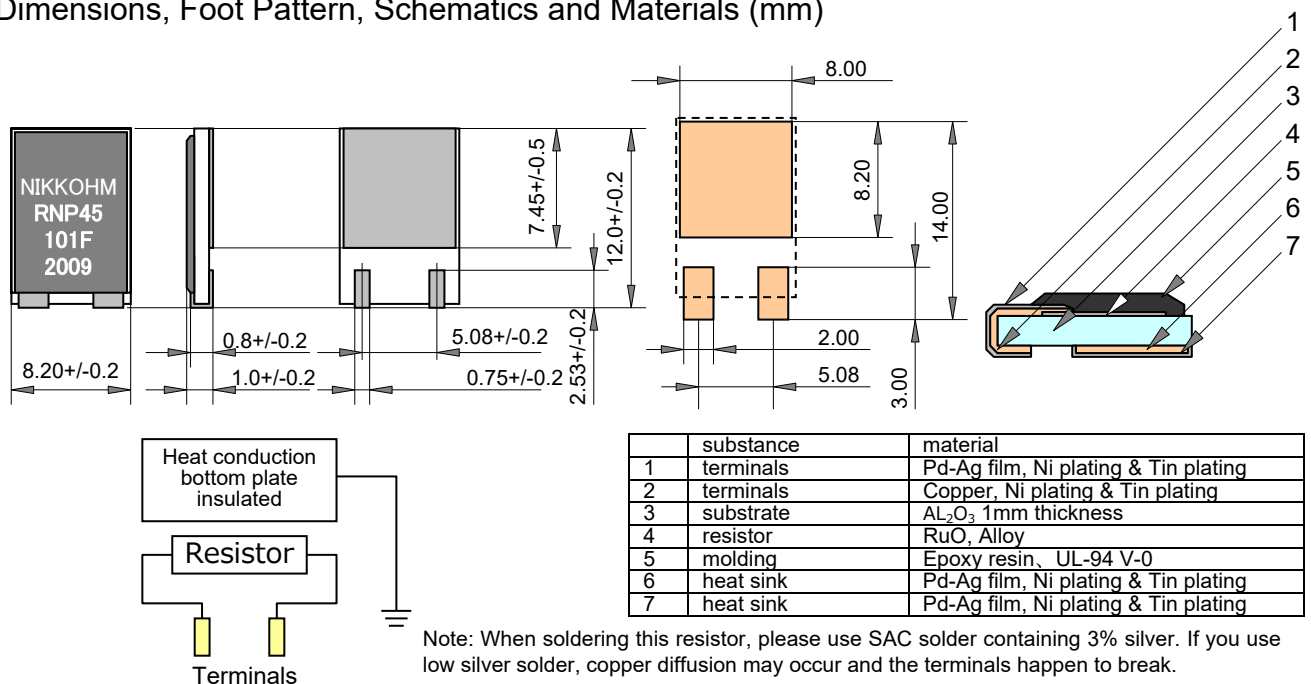


Features and Applications

Unique SMD surge protection power-film resistor with the very small size, the great thinness, the light weight and TO252 package. The operation temperature range from -55°C to +175°C aids the automotive applications. Low thermal resistance, below 1.0 °C/W shows an excellent cooling performance. Easy to replace TO252 D-PAK power resistors. Excellent radio frequency characteristic that is profitable for the high-speed pulse operation.

Applications; Snubber, gate control, bleeder, filter, rush current protection, braking resistors of automotive, rail traction, wind turbine, PV, UPS and motor control inverters.

Dimensions, Foot Pattern, Schematics and Materials (mm)



Ordering Information

| Type | Resistance | Tolerance | Code | Remarks |
|--------|----------------------------|-----------|------|----------------|
| RNP-45 | 100 Ohm | F* | Z01 | |
| RNP-45 | 0.02 Ohm- 510k Ohm E24+ | F(1%)* | Z01 | Tape & Reel *1 |

*20-500pcs per reel, 254mm reel size

Recommend resistance E24+

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 |

(*) Tolerance of 0.02ohm to 0.091ohm are +/-5% only.

20260316

Specifications are subject to change without notice. Please contact to the factory.

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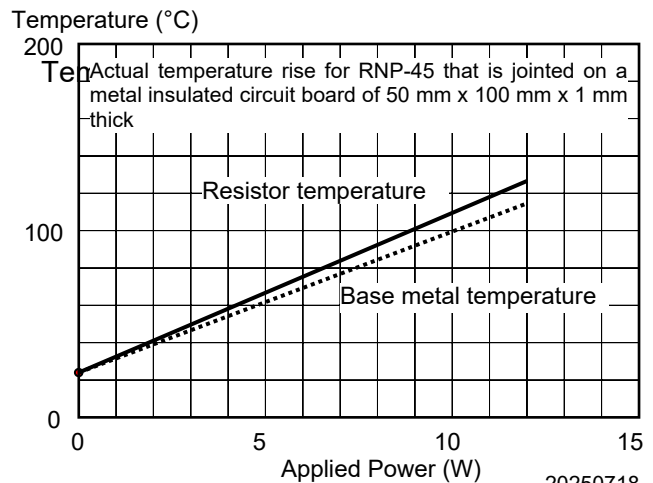
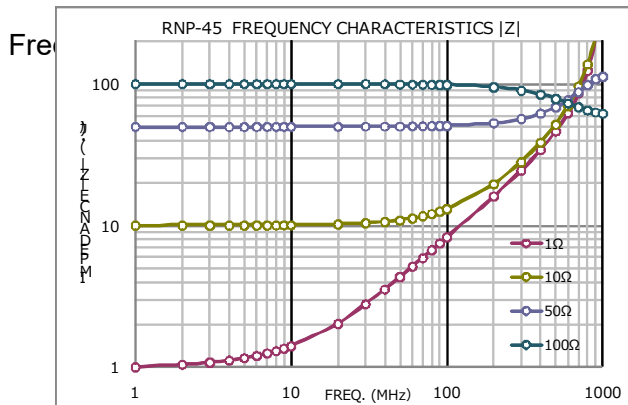
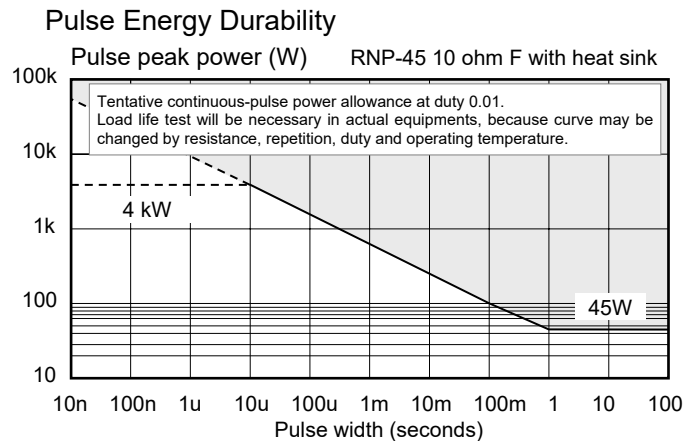
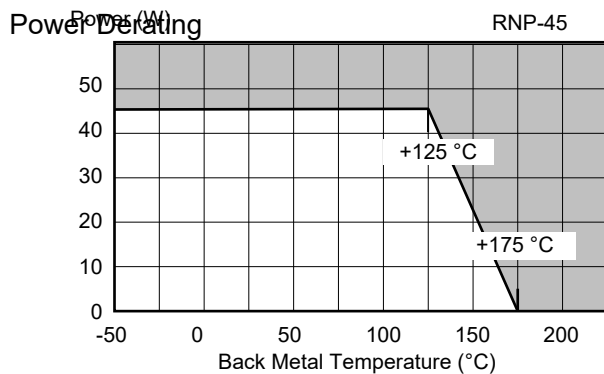
URL: https://www.nikkohm.com

45W SMD POWER CHIP RESISTOR, RNP-45

Specifications

| | RNP-45 | Test Conditions |
|------------------------|--------------------------------------|---|
| Rating Power | 45 Watts | -55 °C to 25 °C backing metal temperature |
| Rating Power | 1.0 Watts | Attached on simple foot print, no heat sink. |
| Short Time Overload | 90 W – 5 sec. | Rated power X 2.0 and 5 second at 25°C with heat-sink |
| Heat Resistance | 1.0 °C/W | Resistor to back metal |
| Resistance Range | 0.02 Ohm – 510k Ohm | 0.02ohm-0.91ohm are available at 5% tolerance only. |
| Nominal | E24 + | Include 2.5, 4.0, 5.0, 8.0 and 16 |
| TCR | 100 ppm/°C | 10ohm to 51kohm, around 100 ppm /°C under 9.1ohm |
| Tolerance | +/-1% (F) | |
| Resistor Material | Thick Film | |
| Capacitance | 1.44 pF | Equivalent parallel capacitance, typical |
| Inductance | 8.38 nH | Equivalent series inductance, typical |
| Operation Temp. | -55 °C to +175 °C | |
| Max. Operating Current | 10A | |
| Max. Operating Volt. | less than 500V or $\sqrt{P \cdot R}$ | P is rating power and R resistance |
| Withstanding Volt. | 1500 VAC | Terminal and back metal, 60 seconds. 1mA |
| Load Life | +/- 1.0 % | 25 °C, 90 min. ON, 30 min. OFF, 1000h. |
| Humidity | +/- 1.0 % | 40 °C, 90-95%RH, DC 0.1W, 1000 hours. |
| Temp. Cycle | +/- 0.25 % | -55 °C, 30 min., +155 °C, 30 min., 5cycle |
| Soldering Heat | +/- 0.1 % | 350+/-5 °C, 3seconds, |
| Lead Solder ability | Over 95% of surface | 245+/-5 °C, 3seconds. |
| Insulation Resistance | Over 1,000 Meg ohm | Between terminals and back metal. |
| Vibration | +/- 0.25 % | IEC60068-2-6, see note |
| MSL | Level 1 | |
| Weight | 0.3 grams | |

Note: Test method is IEC60068-2-6, and specification is sine sweep wave form, 100Hz-2000Hz, 10 cycles, amplitude 0.75mm or 100m/s², 90minutes. direction x-y z, Amplitude 0.75mm will be applied under break point Frequency (about 60Hz) and 100m/ s² over break point



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