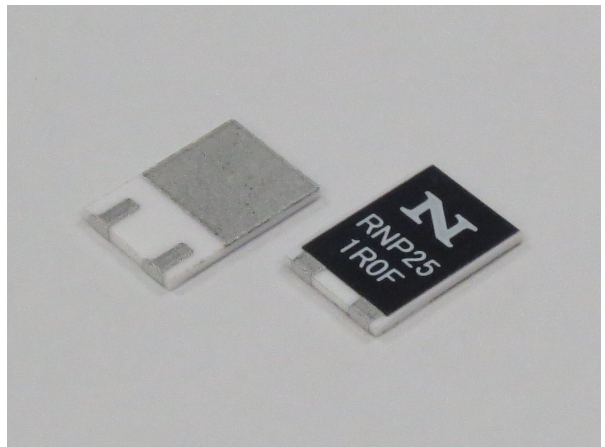


25W  
SMD SURGE PROTECTION RESISTOR

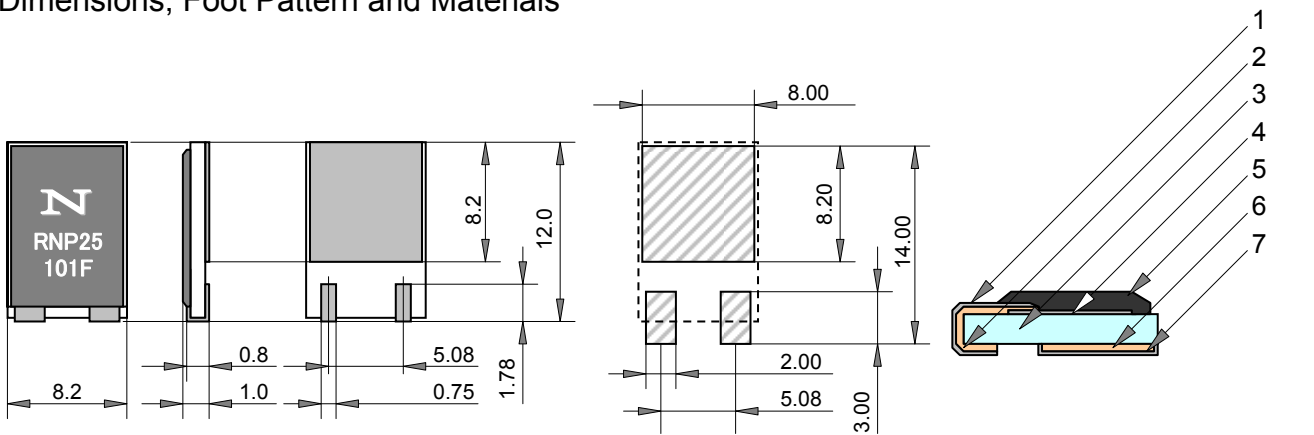
RNP-25



Features and Applications

- Very small size, low profile, right weight SMD surge protection power film resistors.
- Easy to replace D-PAK power resistor.
- Excellent rf characteristics advantage to high speed pulse operation.
- Applications include power electronics, power consumption meter, electronic load equipments, battery charger, automotive and etc.

Dimensions, Foot Pattern 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, UL-94 V-0
6	heat sink	Pd-Ag film, Ni plating & Tin plating
7	heat sink	Pd-Ag film, Ni plating & Tin plating

Ordering Information

Type RNP-25	blank -	Resistance 100 ohm	Tolerance F*	Code Z01	Remarks
RNP-25	-	0.02 ohm- 51kohm E24+	F(1%)*	Z01	Tape reel

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

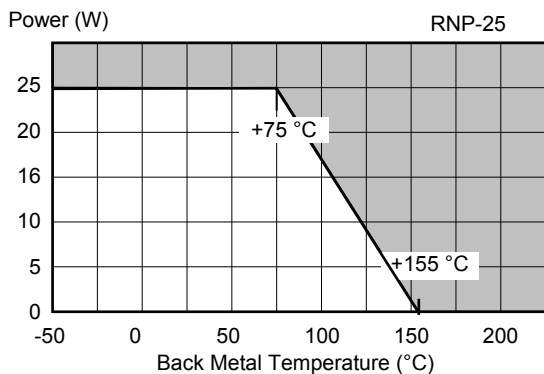
(\*) Tolerance of 0.02ohm to 0.091ohm will be +/-5% only.

## 25W SMD POWER CHIP RESISTOR, RNP-25

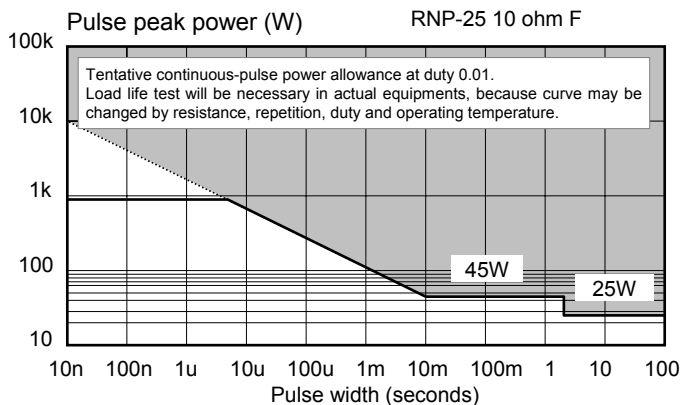
### Specifications

	RNP-25	Test Conditions
Rating Power	25 Watts	-55 °C to 75 °C backing metal temperature
Rating Power	1.0Watts	Attached on simple foot print.
Short Time Overload	50W	Rated power X 2.0 and 5 second at 25°C
Heat Resistance	3.0 °C/W	Resistor hot spot to attached flange optionally
Resistance Range	0.02 ohm – 51kohm	0.02ohm-0.91ohm are 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)	
Capacitance	2.65 pF	Equivalent parallel capacitance, typical
Inductance	14.65 nH	Equivalent series inductance, typical
Operation Temp.	-55 °C to +155 °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	230+/-5 °C, 3seconds.
Insulation Resistance	Over 1,000 Meg ohm	Between terminals and back metal.
Vibration	+/- 0.25 %	IEC60068-2-6, see note 4

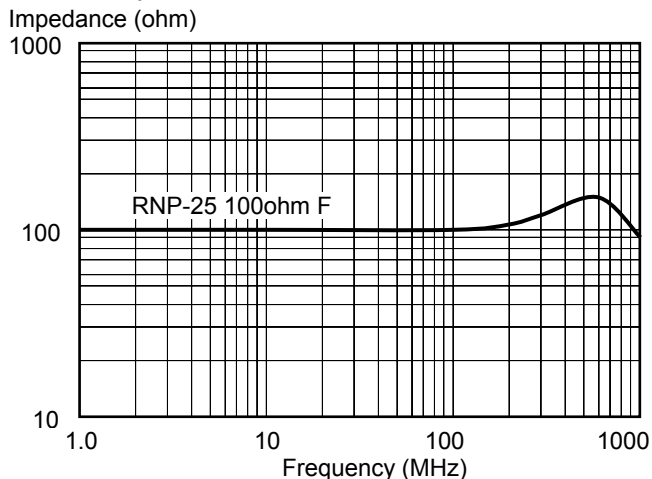
### Power Derating



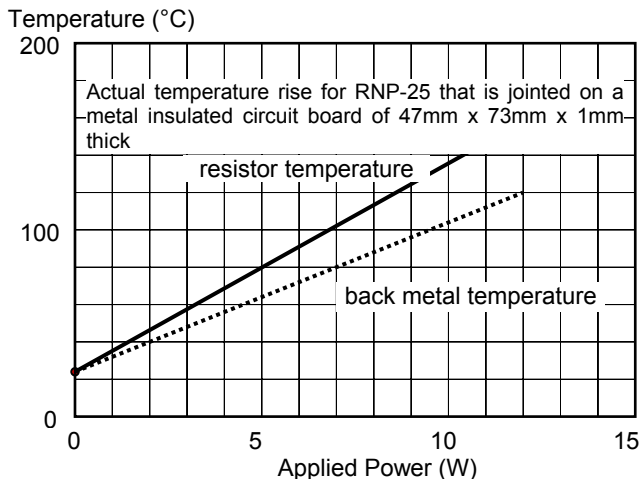
### Pulse Energy Durability



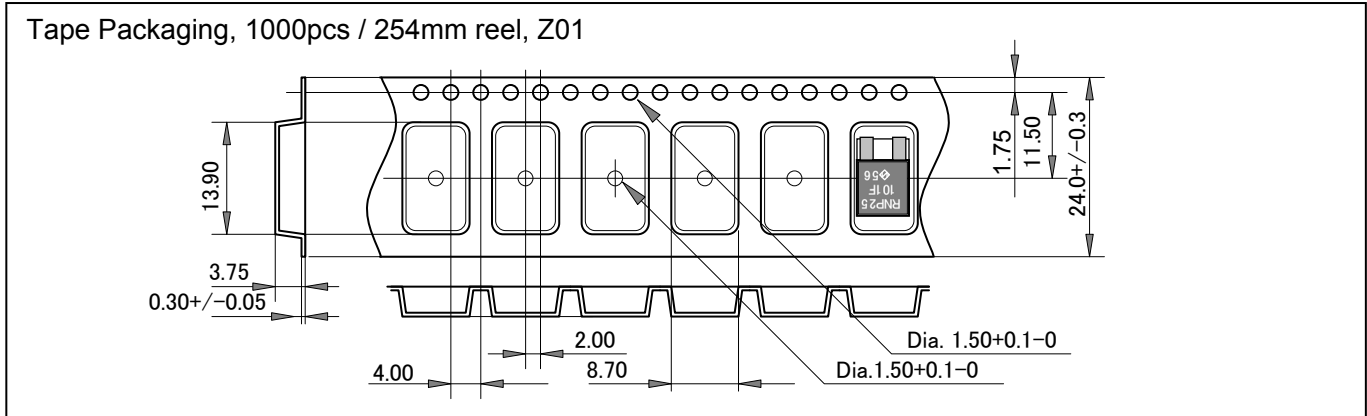
### Frequency Characteristics



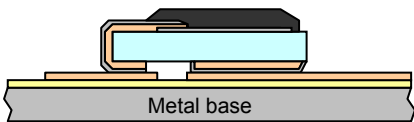
### Temperature Rise



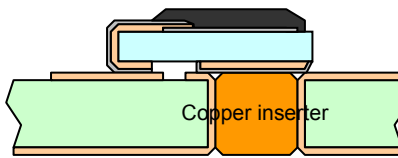
25W SMD POWER CHIP RESISTOR, RNP-25



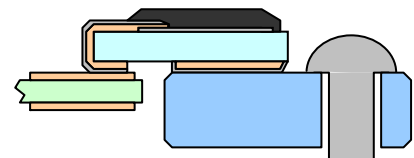
Applications



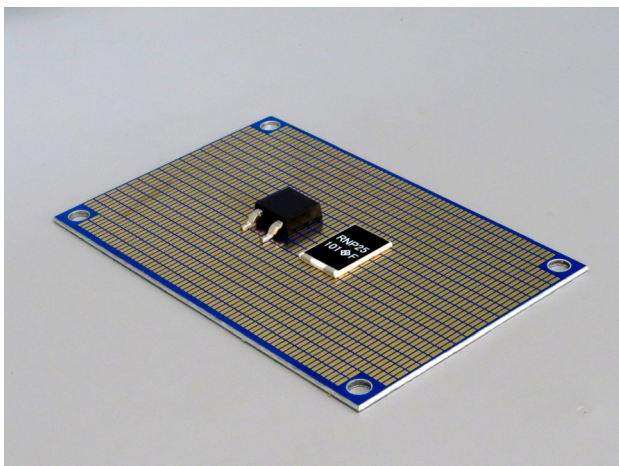
Metal insulated circuit board improves thermal absorption performance from resistor to heat-sink.



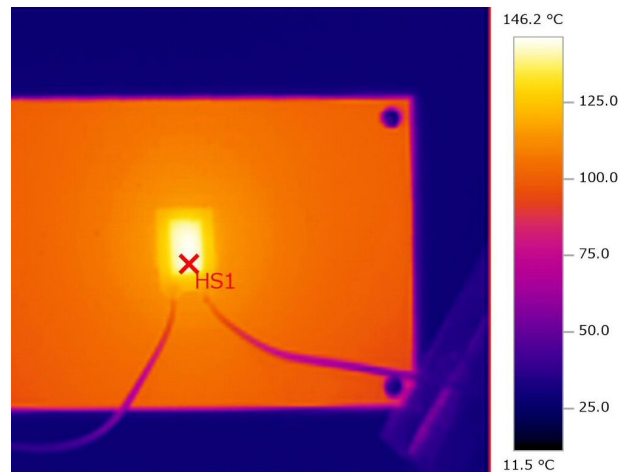
Copper inserter improves thermal absorption performance from resistor to heat-sink.



Mounting RNP-25 on a proper metal flange shows excellent heat absorption, please note to be connected the terminals with flexible joint.



DPAK and RNP-25 on metal insulated circuit board



Max 12W power application to RNP-25 and 47mm x 73mm aluminum insulated circuit board