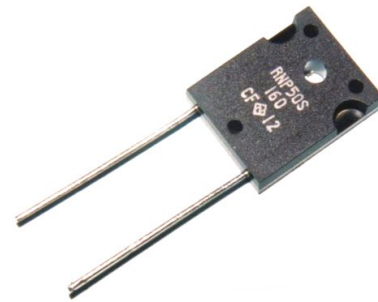


## TO247 100W HIGH POWER RESISTO

## RNP-50S (27.5mm lead length)



## Features and Applications

100W high power resistor in TO-247 molded package.

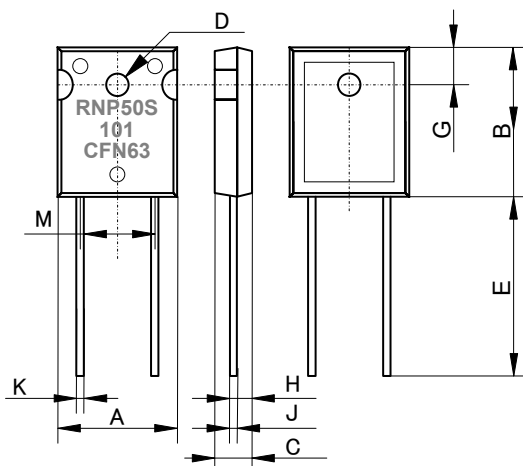
Only 1.3C/W heat resistance between resistor and flange is realized.

Non-inductive designs fit for high frequency circuit and wide band amplifiers.

Flexible lead terminal for easy mounting, lead total length 27.5 mm. The lead length of 27.5 mm is indicated by Z00 at the end of the part number.

AC motor control, IPM, SW power supply, volt power source, constant current source, electronic load, precision voltage source, industrial rf power source, rf linear amplifier, termination resistor of RF circuit.

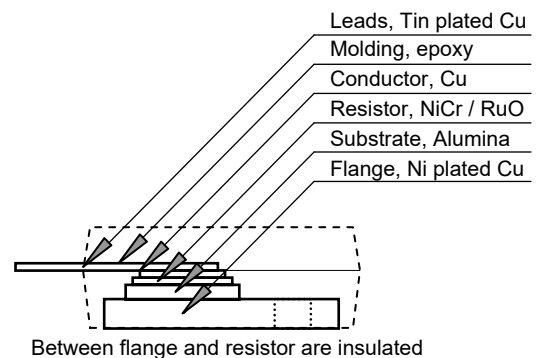
## Dimensions



RNP-50S		
	mm	+/-mm
A	16.0	+/-0.2
B	20.0	+/-0.5
C	4.8	+/-0.2
D	3.55	+/-0.1
E	27.5	+/-1.0
F	-	-
G	5.1	+/-0.5
H	3.63	+/-0.2
J	-	-
K	0.8	+/-0.05
L	-	-
M	10.9	+/-0.1
N		

(\*)Dimension D had changed to 3.55+/-0.1mm from January 2009.

## Structure &amp; Materials



Between flange and resistor are insulated

## Specifications and Performances

Specification Items	Specification-Performance			Test Conditions
Rating Power	100 W			Note, at 25 °C flange temperature
Rating Power	3.0 W			Free air.
Max. Applied Power	100 W			Short time overload is same as rating power
Heat Resistance	1.3 °C/W			From resistor to flange
Resistance Range	0.02-0.09Ω	0.1-510K Ω	10-51K Ω	
Nominal Resistance	+E12	+E24	+E24	Additional 2.0 and 5.0.
TCR	250ppm/C	100 ppm/C	50 ppm/C	For -55°C to +155 °C
Tolerance	+/-5%	+/-1%	+/-1%	
Resistor Materials	Thick Film		Thin Film	
Capacitance	2.35 pF			Lead length 10mm
Inductance	11.72 nH			Lead length 10mm
Operation Temp. Range	-55°C - +175°C			
Max. Applied Voltage	Less than 750V or $\sqrt{P \cdot R}$			Max operating current 20A
Withstanding Voltage	2500VAC			60 seconds, 1mA
Load Life	+/-1.0 %			25°C, 90 min.ON, 30min.OFF, 1000hours.
Humidity	+/-1.0 %			40C, 90 - 95%RH, DC0.1W, 1000hours.
Temperature Cycle	+/-0.25 %			-55°C, 30 min., +155°C 30min., 5cycles.
Soldering Heat	+/-0.25 %			350+/-5 °C, 3seconds,
Solder ability	Over 3/4 of round			245+/-5 °C, 3seconds.
Insulation Resistance	Over 1000 MΩ			Between terminals and tab.
Vibration	+/-0.25 %			
Flammability	UL94V-0			
Weight	7.2 grams			

# TO247 100W TO247 100W HIGH POWER RESISTORS RNP-50S (27.5mm lead length)

## Ordering Information

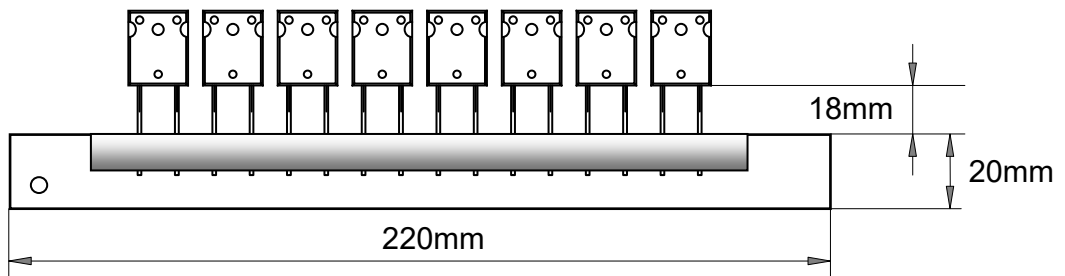
RNP-50S	C	10R0 (*)	F	Z00	Note
RNP-50S	H(>250ppm) A(100ppm) C(50ppm)	R02-R09 (+E6) R10-510K (+E24) 10R-51K (+E24)	J(5%) F(1%) F(1%)	Z00	RoHS 台紙テープ Z00 shows 27.5mm lead

Resistance value (\*) is available following modified E24, +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

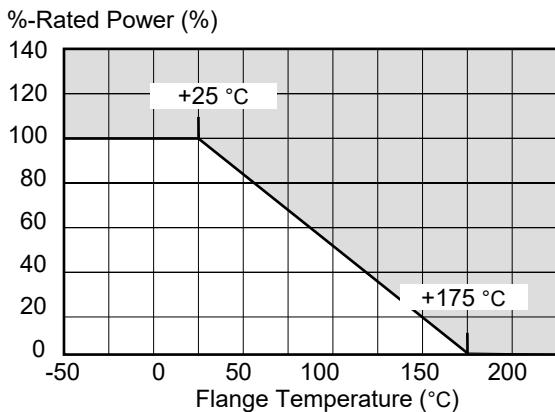
Note\*: When order, additional ohm resistance notation is recommended for keeping out of misunderstanding.

## Packaging

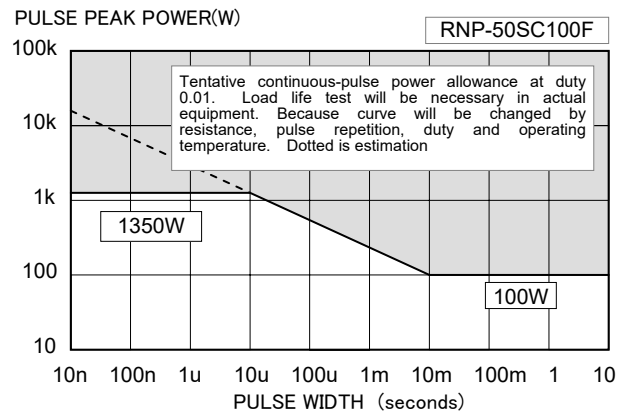


Up to 8 pieces are attached to the mount paper with adhesive paper tape with a width of 10 mm to prevent the leads from bending.

## Derating Curve



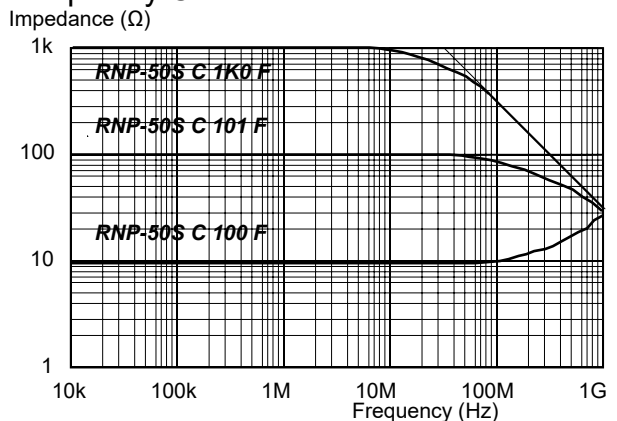
## Pulse Energy Durability



## Recommendation

- (1) Flat surface heat sink, thermal compound and sufficient mount screw torque (0.5Nm-0.6Nm) will be necessary for well heat transfer.
- (2) In rush current protection application as charge current limitation resistor, sufficient power derating will be necessary.
- (3) Flammability is UL94V-0,
- (4) Recommended screw torque is 0.5-0.6Nm.

## Frequency Characteristics



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