

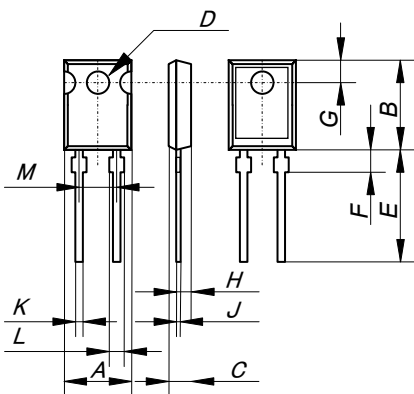
TO126 20W HIGH POWER RESISTORS

RNP-10S

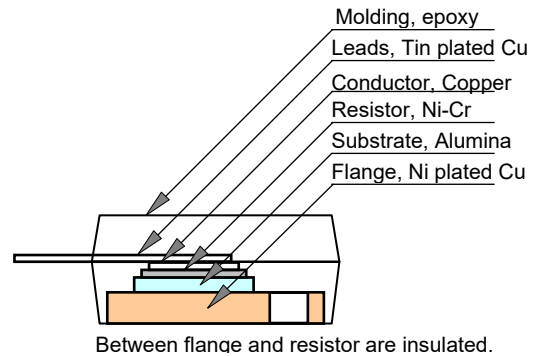


Features and Applications

Small 20Watts high power resistor in TO-126 package with 5.9 C/W heat resistance from hot spot to flange.
 Non-Inductive, fit for high speed SW power sources, high precision high-speed pulse handling circuits.
 Thin style in small package fit for high-density installation of electronic instruments.
 Superior vibration durability with heat sink mounting.
 Complete thermal flow design are available.
 Applications include snubber, gate control, bleeder, filter, rush current protection, braking resistors of automotive, rail traction, wind turbine, PV, UPS and motor control inverters.



RNP-10S		
	mm	+/-mm
A	8.5	+/-0.2
B	12.0	+/-0.2
C	3.1	+/-0.2
D	3.1	+/-0.1
E	17.0	+/-1.0
F	3.2	+/-0.5
G	3.8	+/-0.2
H	1.75	+/-0.1
J	0.5	+/-0.05
K	0.6	+/-0.05
L	1.4	+/-0.05
M	5.08	+/-0.1



Specifications and Performances

	Specification-Performance			Test Conditions
Rating Power	20 Watts			Flange temperature of -55 to +25 °C
Rating Power	1 Watt			Free air (without heat sink).
Heat Resistance	5.9 °C/W			From hot spot to flange.
Resistance Range	0.02-0.09 Ohm	0.1-9.1 Ohm	10-51K Ohm	
Nominal Resistance	+E6	+E24	+E24	
TCR (ppm/deg C)	+/-250 (H*)	+/-100 (A)	+/-50 (C)	Flange temperature -55 to +155°C
Tolerance	+/-5%(J)	+/-5%(J)	+/-1%(F)	
Resistor Matverial	Thick Film		Thin Film	
Capacitance	1.00 pF			Equivalent parallel capacitance.
Inductance	8.22 nH			Equivalent series inductance
Operation Temp. Range	-55 °C to +175°C			
Max. Operation Voltage	Small value either 500V or $\sqrt{P \times R}$			P: rating power and R: resistance
Withstanding Voltage	2000 Volt AC			60 seconds, 1mA,
Load Life	+/- 1.0 %			25 °C, 90 min.ON, 30min.OFF, 1000h.
Humidity	+/- 1.0 %			40 °C, 90 to 95%RH, DC 0.1W, 1000h
Temperature Cycle	+/- 1.0 %			
Soldering Heat	+/- 1.0 %			350+/-5 °C, 3seconds,
Solder ability	Over 95 of surface			245+/-5 °C, 3seconds.
Insulation Resistance	Over 1000 Meg Ω			Between terminals and flange.
Vibration	+/-0.25 %			IEC60068-2-6, see note 4
Flammability	UL94-V0			
Weight	0.9 grams			

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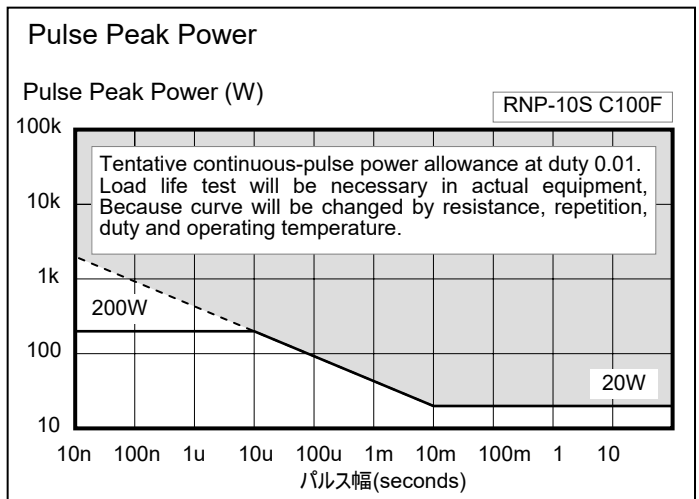
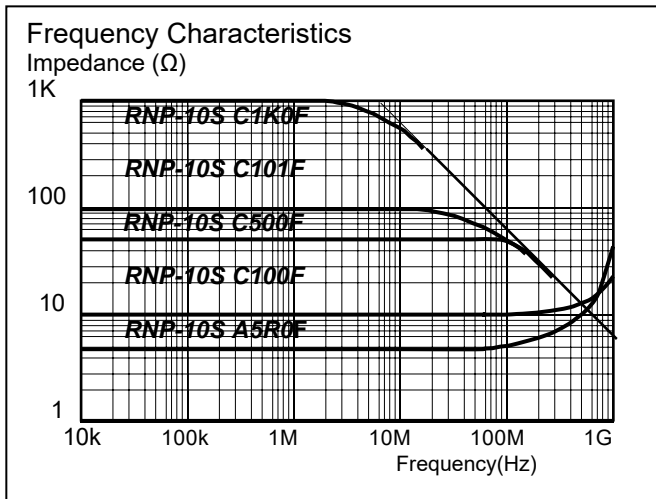
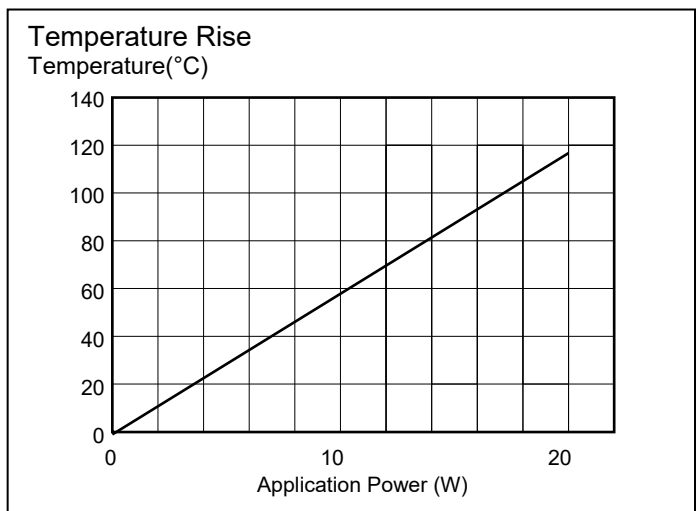
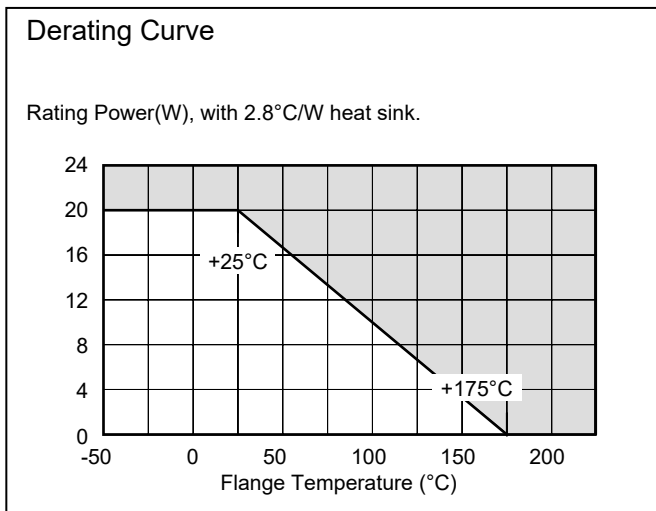
Ordering Information

RNP-10S	C	10R0 (*)	F	Z03	Note
RNP-10S	H(250ppm) A(100ppm) C(50ppm)	R02-R09 (+E6) R10-9R1 (+E24) 10R-51K (+E24)	J(5%) F(1%), J(5%) F(1%)	Z03 Z05	Tube/60pcs Tray/100pcs

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 ordering, additional ohm resistance notation is recommended for keeping out of misunderstanding.



Note

- (1) Insulation material is unnecessary between flange and heat-sink, because flange and resistor are separated by alumina insulated substrate. When mounting resistor on heat-sink, 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.
- (2) Resistance measurement shall be made at a point 5.27mm +/-0.6 mm from the resistor body.
- (3) TCR of low resistance will be increased as 300ppm/0.02Ω, 200ppm/0.05Ω, 140ppm/0.1Ω and 80ppm/0.2Ω typically. Testing point is at 5.27mm from bottom of molding of terminals.
- (4) 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
- (5) 0.1% tolerance resistors is available, please see datasheet of RNP-10P.