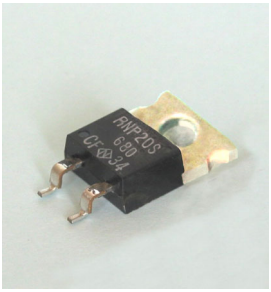
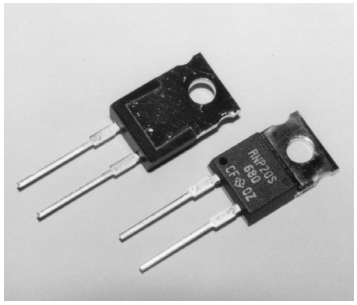
POWER SOLUTION - NIKKOHM

30W HIGH POWER RESISTORS
RNP20S

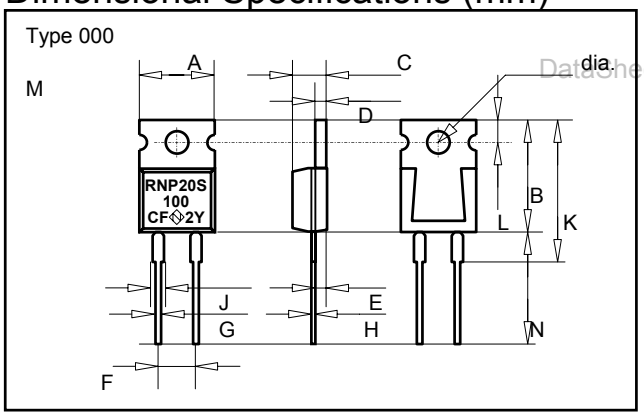


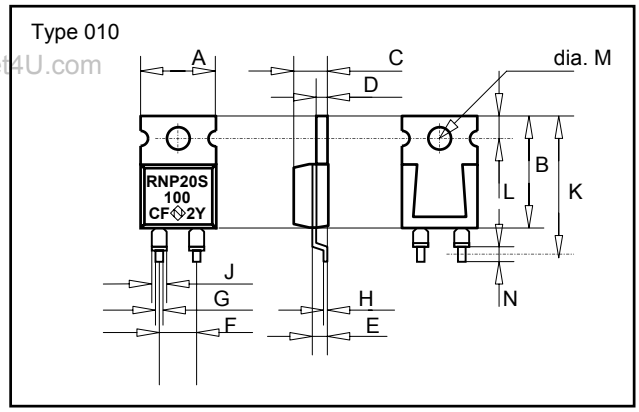


Features and Applications

35W high power resistors in TO220 style molded package for through-hole (35W) and surface mount (30W).
Non-inductive design fits for high frequency applications and high-speed pulse circuits.
Low, 3.3 C/W heat resistance from resistor hot spot to flange is presented by thin film metalization technology.
Wide, 100mohm to 220ohm resistance range, non-inductive impedance characteristic and pulling heat out through insulated metal tab help circuit designers.
Small size and thin profile fit for high-density compact installations.
Complete thermal conduction, heat dissipation design and vibration durable design will be available.
Applications for SW PS, power unit of machine, motor control, drive circuit, automobile, measurements and industrial

Dimensional Specifications (mm)





Type	A	B	C	D	E	F	G	H	J	K	L	M	N
000	10.6	15.0	4.5	1.5	2.7	5.08	0.75	0.5	1.5	19.0	2.7	3.6	15.0
010	10.6	15.0	4.5	1.5	2.7	5.08	0.75	0.5	1.5	14.0	2.7	3.6	2.0

Ordering Information

Designation	Type	TC	Resistance	Tolerance	Lead forming
RNP20SC221F000	RNP20S	C(50ppm)	220ohm	F(1%)	000 (through-hole)
RNP20SC101F010	RNP20S	C(50ppm)	100ohm	F(1%)	010 (smd)
RNP20SAR1J000	RNP20S	A(100ppm)	0.1ohm	J(5%)	000 (through-hole)
RNP20SC500F000	RNP20S	C(50ppm)	50ohm	F(1%)	010 (smd)

Note:
(1) Insulating material is not necessary between flange and resistors, flange and resistor is separated by alumina substrate.
(2) At surface mount soldering, temperature profile in tab shall not exceed 220C.
(3) Using heat conduction grease on surface of flange is recommended.
(4) Heat resistance between resistor and tab is 3.3 C/W. Heat design will be done, as resistor temperature shall be under 155C in operation.
(5) 0.1% tolerance resistors and over 220ohm resistance are available, please call factory.

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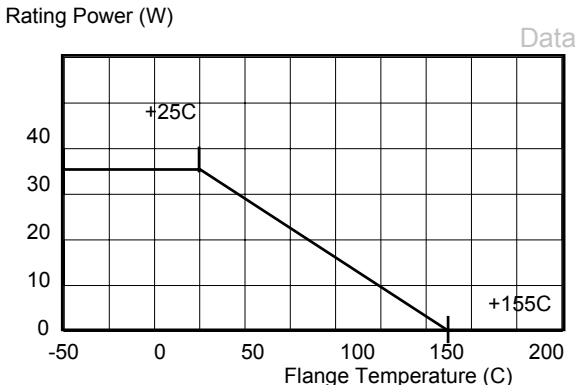
Specifications

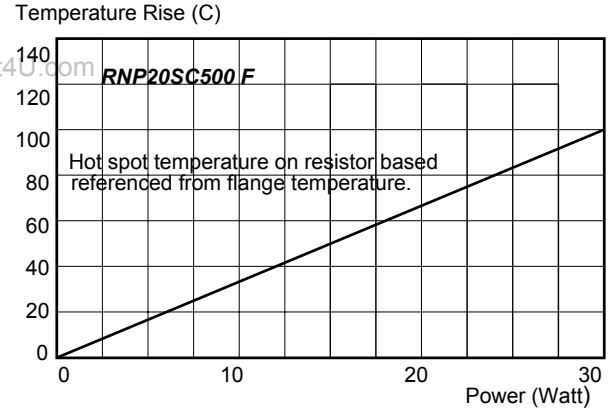
Items	Specification-Performance		Test Conditions
Rating Power	30 Watt		-55 to 25 C flange temperature
Rating Power	1 Watt		Free air.
Heat Resistance	3.3 C/W		Hot spot to flange
Resistance Range	0.1-9.1ohm	10-220ohm	220-51k ohm are available, see Note
Nominal Resistance	E24	E24	Include 2.5 and 5.0
TCR	100ppm/C (A)	50ppm/C (C)	-55 to +155 C
Tolerance	1% (F) and 5% (J)	+/-1% (F)	
Operation Temp. Range	-55C to+155C		
Max. Operating Volt.	500V or sqrt (PR)		
Withstanding Voltage	DC2000 Volt		60 seconds.
Load Life	+/-(1.0 %+0.05 ohm)		25 C, 90 min.ON, 30 min.OFF, 1000 hours.
Humidity	+/- (1.0 %+0.05 ohm)		40C, 90-95%RH, DC 0.1W, 1000 hours.
Temp. Cycle	+/- (0.25 %+0.05 ohm)		-55 C,30 min.,+155 C,30 min.,20cycles
Short Time Overload	+/- (0.25 %+0.05 ohm)		40W power, 5seconds
Soldering Heat	+/- (0.1 %+0.05 ohm)		350+/-5 C, 3seconds,
Solder ability	Over 95% of surface		230+/-5 C, 3seconds.
Insulation Resistance	Over 1,000 Meg ohm		Between terminals and tab.
Vibration	+/- (0.25 %+0.05 ohm)		

Note: At resistance from 220 to 51kohms rating power shall be restricted in 20W.

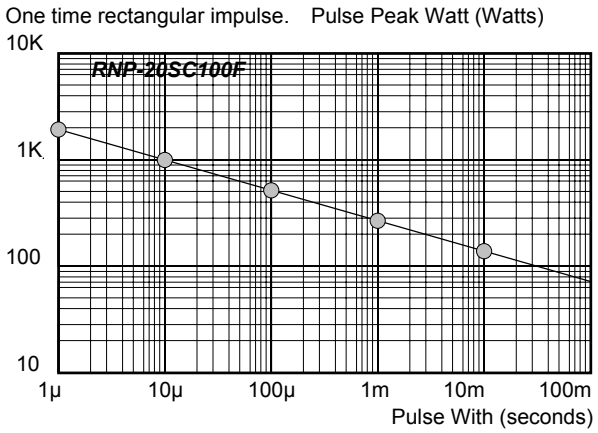
Derating



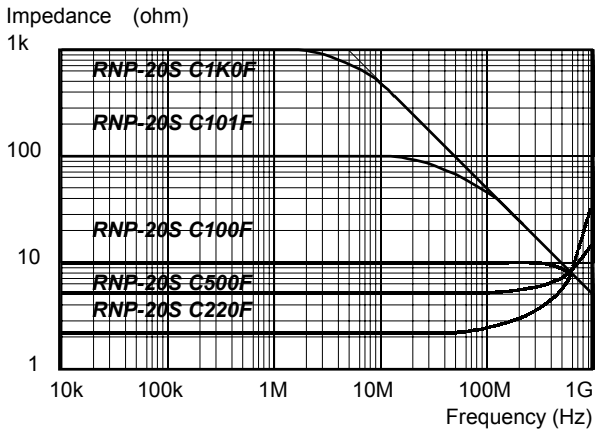
Temperature Rise



Pulse Energy Durability



Frequency Characteristics



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