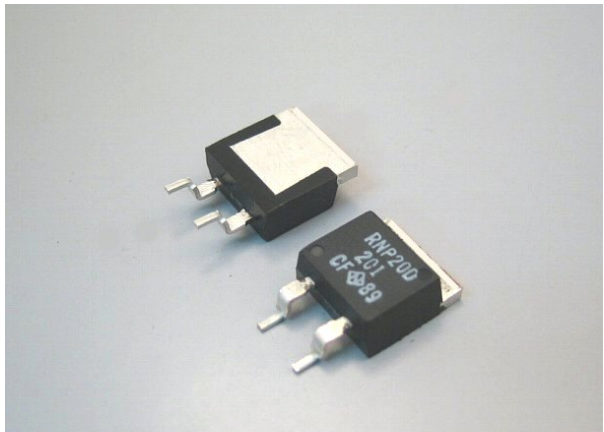


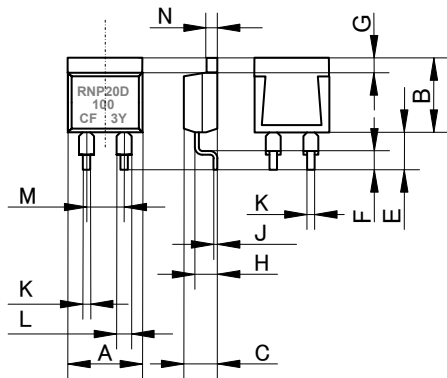
TO263 SURFACE MOUNT  
35W HIGH POWER RESISTORS  
RNP-20D



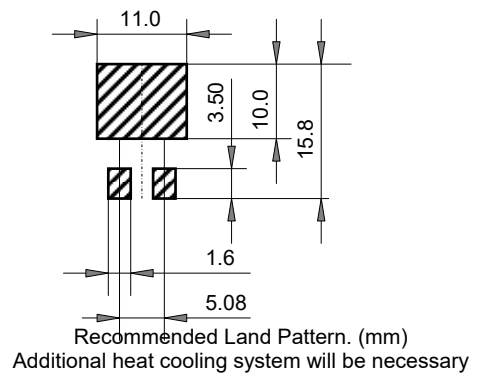
Features and Applications

35W high power resistors in TO263 (D2-PAK) style surface mount mold package.  
 Non-inductive design suits high frequency applications and high-speed pulse circuits.  
 Low, 3.3 °C/W heat resistance from resistor hot spot to flange and long life performance are presented with thin film metallization technology and rejection of plastic adhesive joint.  
 Wide, 20 milliΩ to 510K Ω resistance range, non-inductive impedance characteristic and heat venting through insulated metal flange aids circuit designers.  
 Small size and thin profile suits high-density compact installations.  
 RNP-20D has a Ni plated copper flange, when matte tin plating is necessary refer to RNP-20E  
 Complete thermal conduction, heat dissipation design and vibration durable design to be available.  
 Applications for UPS, power unit of machines, motor control, drive circuits, automotive, measurements, computers and high frequency electronics.

Dimensional Specifications (mm)



RNP-20D		
	mm	+/-mm
A	10.1	+/-0.2
B	10.3	+/-0.2
C	4.5	+/-0.2
D	-	-
E	5.0	+/-1.0
F	2.5	+/-0.5
G	2.2	+/-0.2
H	2.75	+/-0.2
J	0.5	+/-0.05
K	0.75	+/-0.05
L	1.5	+/-0.05
M	5.08	+/-0.10
N	1.5	+/-0.05



When joint on printed circuit board, reflow soldering by furnace with another parts shall not be recommended. After mounting another parts and after pre-coating solder on to land pattern, dip flange and leads in to soldering resin, place RNP-20D resistor on the land pattern, and heat flange for 20-30 seconds by soldering iron which iron tip temperature is 300-350 °C. Flange temperature shall be in 270+/-10 °C for 30 seconds. A better result will be obtained if flange is pre-coating solder. Please note using soldering flux and large caloric capacity.

Ordering Information

Model	TCR	Resistance Value	Tolerance	Packaging	Remarks
RNP-20D	A	1R0 (*)	F	Z01	RoHS 2
RNP-20D	H(>250ppm)	R02-R09 (+E6)	J(5%)	Z01(Tape)	
	A(100ppm)	R10-510K(+E24)	F(1%), J(5%)	Z03(Tray)	
	C(50ppm)	10R-51K (+E24)	F(1%)	Z05(Tray) *	

\* TO263 type resistor packaging Z05 (tray) has a risk of lose of flatness, co-planarity.  
 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

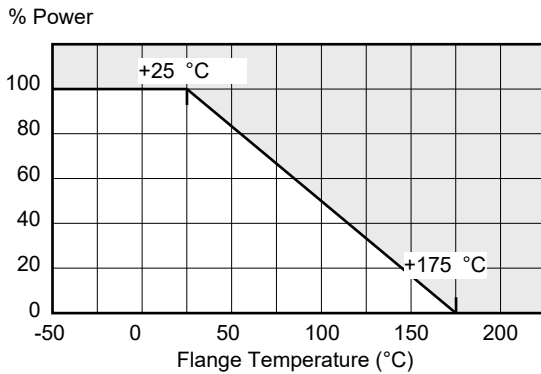
TO263 SMD 35W HIGH POWER RESISTORS

RNP-20D

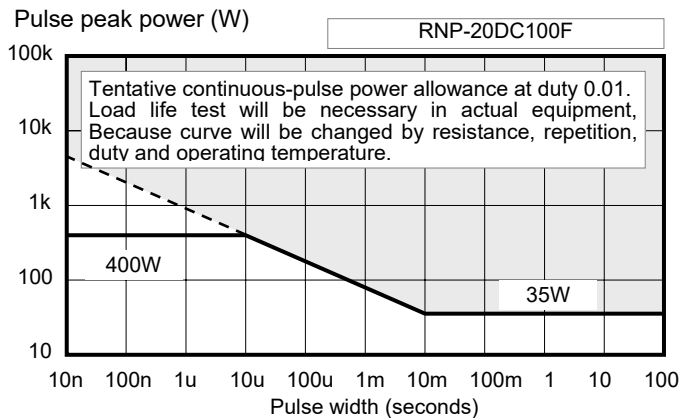
Specifications

Items	RNP-20D			Test Conditions
Rated Power	35 Watt			-55 °C to 25 °C flange temperature
Rated Power	2 Watt			Attached on simple foot print.
Heat Resistance	3.3 °C/W			Resistor hot spot to flange
Resistance Range	0.01-0.091Ω	0.1-510KΩ	10-51KΩ	Note 2
Nominal Resistance	E6	E24+	E24	Include 2.5, 4.0, 5.0, 8.0 and 16
TCR(ppm/° C)	250(H)	100 (A)	50 (C)	Note 3.
Tolerance	5%(J)	1% (F), 5% (J)	+/-1% (F)	1% tolerance at 0.01-0.091 Ω is available, optional.
Capacitance	1.44pF			Equivalent parallel capacitance.
Inductance	8.38nH			Equivalent series inductance
Category Temp.	-55 °C to +175 °C			
Max. Element Volt.	smaller value either 500V or $\sqrt{P \cdot R}$			P is rating power and R resistance
Voltage Proof Volt.	2000 VAC			Terminal and flange, 60 seconds. 1mA
Load Life	+/- 1.0 %			25 °C, 90 min.ON, 30 min. OFF, 1000 hours.
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., 5cycles
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 Ω			Between terminals and flange.
Vibration	+/- 0.25 %			IEC60068-2-6, see note 4
Weight	1.5 grams			

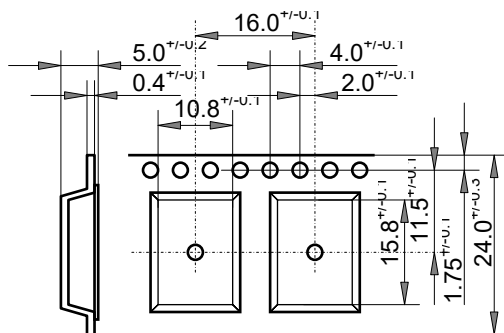
Power Derating



Pulse Energy Durability



Tape Dimensions



Reel Dimension

Outer Diameter: 330 mm  
 Inner Diameter: 100 mm  
 Width: 23.9 mm min. 27.4 mm max  
 Package quantity: 500pcs/13 inches reel

Note:

- Insulation material is unnecessary between flange and heat-sink, flange and resistor is separated by alumina substrate.
- Resistance measurement shall be made at a point 5.27mm +/-0.6 mm from the resistor body.
- 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.
- Test method is IEC60068-2-6, and specification is sine sweep wave form, 100Hz-2000Hz, 10 cycles, amplitude 0.75mm or 100m/s<sup>2</sup>, 90minutes. direction x-y z, Amplitude 0.75mm will be applied under break point Frequency (about 60Hz) and 100m/ s<sup>2</sup> over break point
- 0.1% tolerance resistors is available, please see datasheet of RNP-20P.
- Standard packaging is tape reel, when small quantity, tube packaging or tray are used, the tube is made by RoHS PS/PE which contains 50pcs / tube or 100pcs/ tray