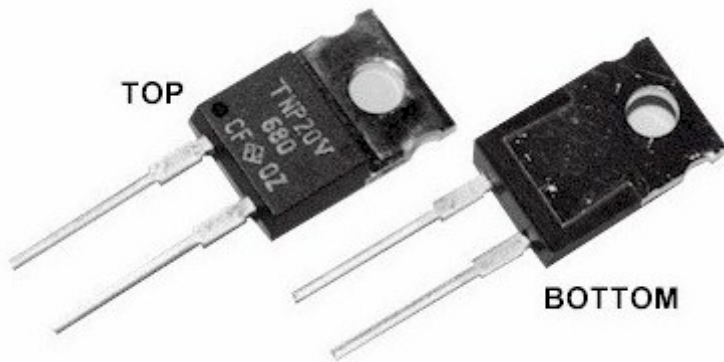


TNP20V HIGH VOLTAGE POWER FILM RESISTOR TO220



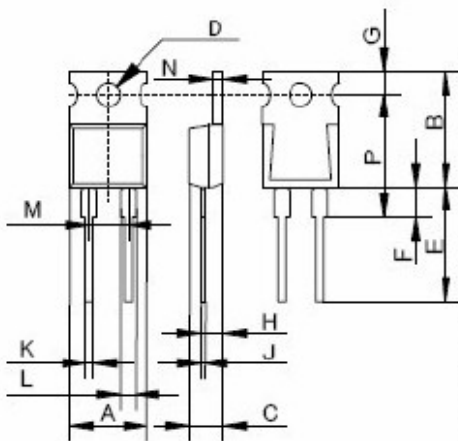
These are TO220 high voltage power film resistors. Internal structure of the resistor allows 4KV insulation. Mounted on a heatsink, usable power is 35W. These models exhibit 3.3C/W heat resistance. Compactness aids circuit design. Units also exhibit excellent thermal conduction, heat dissipation and vibration durability. Applications include: ESD test bleeders for SW PS, machine power units, motor control, drive circuits, cars, measurements and industrial computers.

GENERAL SPECIFICATIONS

Item	Performance	Condition
Rated Power	35W	(-55 to 25C flange temperature)
Rated Power	1W	Free Air
Heat Resistance	3.3C/W	Hot spot to flange
Resistance Range	0.1-10MR	
Nominal Resistance	E24	Includes: 2.5, 4, 5, 8, 16
TCR[ppm/C]	+-100(A)	-55-155C
Tolerance[%]	+-5	
Capacitance	1.44pF	Equivalent parallel capacitance
Inductance	8.38nH	Equivalent series inductance
Temp. Range	-55C to +155C	
Max Applied Voltage	500V or Root(PR)	
Withstanding Voltage	4000VAC	Terminal and flange, 60sec.
Load Life	+- (1.0%)	25C, 90min. ON, 30min. OFF, 1000hrs
Humidity	+- (1.0%)	40C, 90-95% RH, DC0.1W 1000hrs
Temp. Cycle	+- (0.25%)	-55C 30min., 155C 30min. 5 cycles
Soldering Heat	+- (0.1%)	350 +-5C, 3 sec.
Solderability	Over 95% of surface	230 +-5C, 3 sec.
Insulation Resistance	Over 1000MR	Between Terminals and Flange
Vibration	+- (0.25%)	IEC60068-2-6
Flammability	UL94 V-O	
Weight	2.1g	

DIMENSIONS AND CONSTRUCTION DIAGRAM

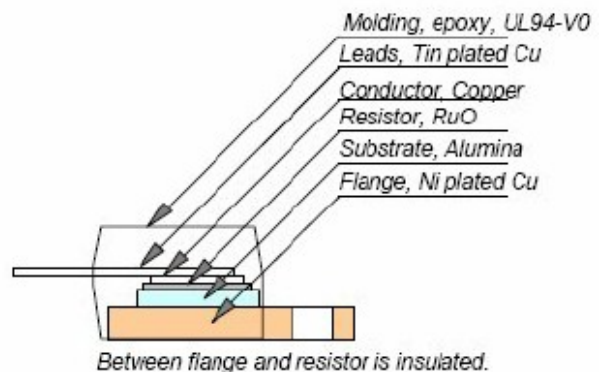
Dimensional Specifications (mm)



TNP-20V		
	mm	+/-mm
A	10.1	+/-0.2
B	15.0	+/-0.2
C	4.5	+/-0.2
D	3.6	+/-0.1
E	15.5	+/-1.0
F	4.0	+/-0.5
G	3.0	+/-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
P	16.0	+/-0.50

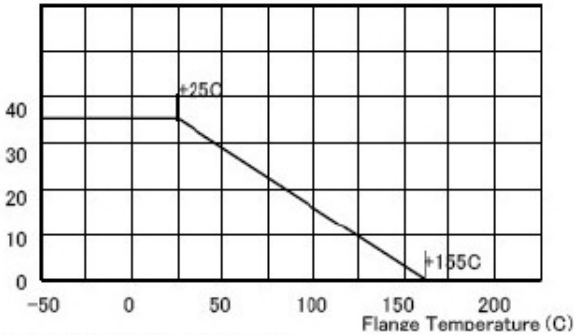
TNP-20V

Structure and Material



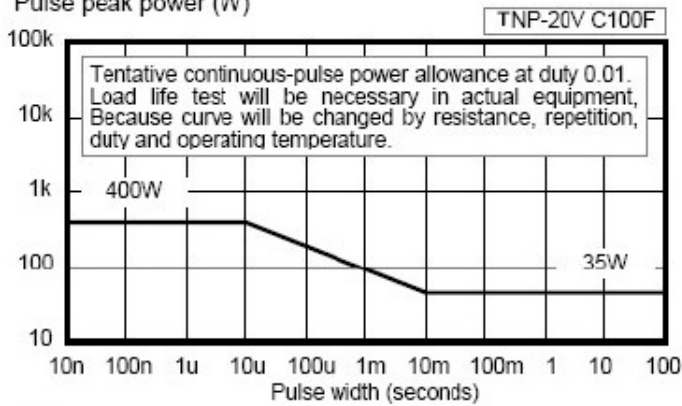
Derating

Rating Power (W)



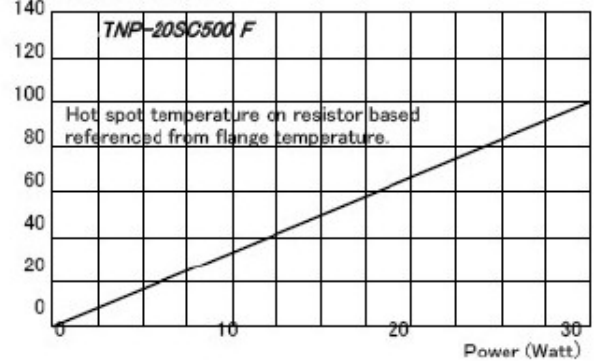
Pulse Energy Durability

Pulse peak power (W)



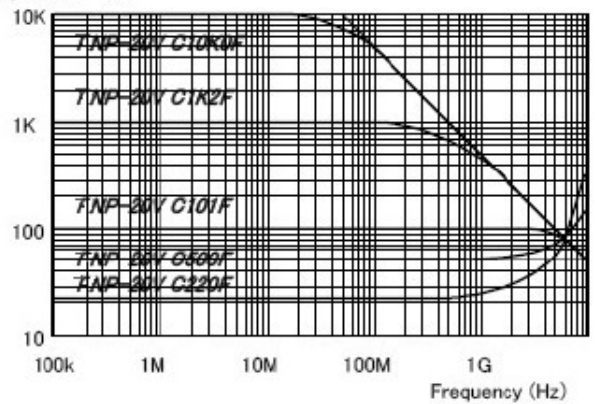
Temperature Rise

Temperature Rise (C)



Frequency Characteristics

Impedance (Ω)



Note:

- (1) Insulating material is unnecessary between flange and heat-sink, flange and resistor is separated by alumina substrate.
- (2) Resistance measurement shall be made at a point 5.27mm +/-0.6 mm from the resistor body.
- (3) 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
- (4) When mounting resistor on heat-sink by 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.

ORDERING PROCEDURE EXAMPLE

