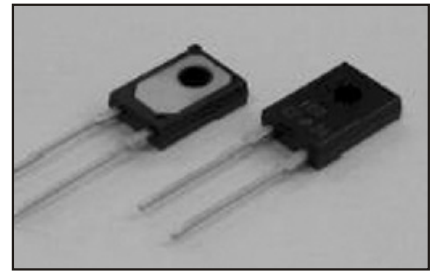


## TO126 / TO220 10W Precision Power Resistors

TNP10P / TNP20P are precision power resistors. Tolerances of 0.1%(B) and TCRs of 5ppm/°C are available. Rated power is 10W if attached to metal case or heatsink. Using thin film technology these units have a proportional temperature vs. small resistance changes between -55°C and +120°C. In DC ranges of up to 100MHz these components are non-inductive and noncapacitive. Units come with a 2KV withstanding voltage between circuit and flange. Applications include: AC power supplies, testing equipment, UPS, motor control, electronics loads, high frequency power supply, 50Ω terminations, high frequency adjustment resistors and Wilkinson amplifiers.



### GENERAL SPECIFICATIONS

Resistance Range[Ω]	0.1 ~ 0.99	1 ~ 5	5~51K
Temperature coefficient [ppm/°C]	±25	±5, ±10, ±25	±5, ±10, ±25
Tolerance	1%, 2%, 5%	0.1%, 0.5%, 1%	0.05%, 0.1%, 0.25%, 0.5%
Nominal Resistance	E24 and any values		
Operation Temperature Range	-55°C ~ +120°C		
Operating Temperature	+25°C		
Power Rating	10W (-55°C to 25°C flange temperature), 0.5W(in free air) 5W(-55°C to 25°C flange temperature)		
Heat Resistance	TNP20P : 3.3°C/W / TNP10P : 5.9°C/W (Hot spot flange)		
Maximum Operating Voltage	500V or $\sqrt{P \cdot R}$		
Inductance	10nH		
Capacitance	1pF		

### CHARACTERISTICS

Values in [ ] mean change in Ω after test

Insulation Resistance	[Over 1,000MΩ]	Between terminals and flange
Dielectric Withstanding Voltage		AC2000V for 60seconds
Short Time Overload	±[0.25%+0.05Ω]	2.5 x Power rating, 5 seconds, with heat sink
Moisture Resistance	±[1.0%+0.05Ω]	40°C, 90~95% RH, DC 0.1 x Power rating, 1000 hours
Temperature Cycle	±[0.25%+0.05Ω]	-55°C, 30 minutes, +120°C, 30 minutes, 5cycles
Vibration	±[0.25%+0.05Ω]	JISC5202
Soldering Heat	±[0.1%+0.05Ω]	350±5°C, 3 seconds
Solderability	Over 3/4 of surface	230±5°C, 3 seconds
Terminal Strength	±[0.25%+0.05Ω]	Tension 4.9N, 1~5 seconds, Bend 2.45N, 90°C, 2 times
Load Life	±[1.0%+0.05Ω]	25°C, 90 minutes on, 30 minutes off, 1000 hours

### DIMENSIONS [mm]

	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
TNP10P	8.5±0.2	12.0±0.2	3.1±0.2	3.1±0.1	17.0±1.0	3.2±0.5	3.8±0.2	1.75±1	0.5±0.05	0.6±0.05	1.4±0.05	5.08±0.1	-	-	-
TNP20P	10.1±0.2	15.0±0.2	4.5±0.2	1.5±0.1	2.45±0.2	2.508±0.5	0.75	0.50	1.5	19.0	2.7±0.5	3.6 dia.	15.0 min.	16.0±0.5	11.0 min.

