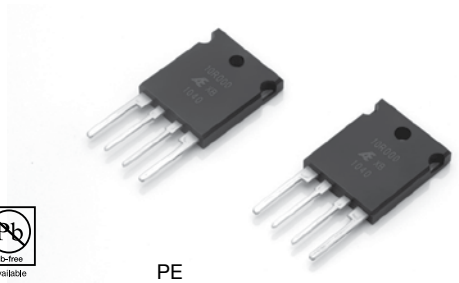
Alpha Electronics
A VPG Brand

Ultra Precision Shunt Resistor (10 Watts, TO Package)



PE

Pb-free Available
RoHS COMPLIANT

COMPOSITION OF TYPE NUMBER

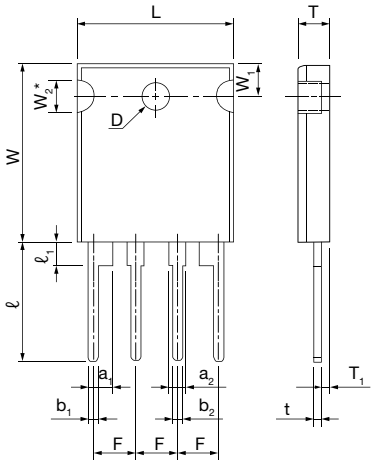
Example:

PE X 1R0000 B

- B — Tolerance
- 1R0000 — Resistance Value
- X — TCR
- PE — Type

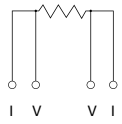
Resistance value, in ohms, is expressed by a series of six characters, five of which represent significant digits. R or K is a dual-purpose letter that designates both the value range (R for ohmic; K for kilo-ohm) and the location of the decimal point.

CONFIGURATION (DIMENSIONS IN mm)



*half circle recess in molding (2)

Schematic of PE



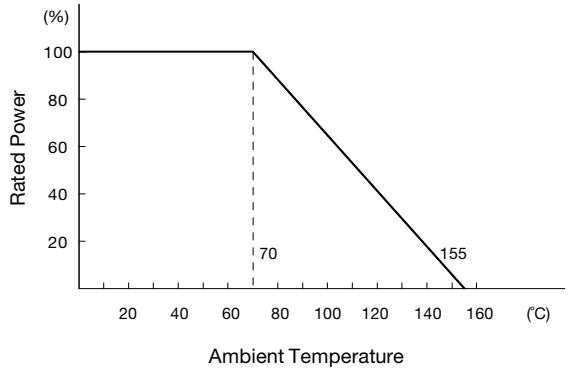
Type	PE
L	19.0±0.5
W	22.0±0.5
W_1	4.0±0.2
W_2*	4.0±0.2
T	4.0±0.2
T_1	1.3±0.2
F	5.08±0.5
ℓ	15.0±1
$ℓ_1$	3.0±0.2
t	0.8±0.1
a_1	3.0±0.2
a_2	2.0±0.2
b_1	1.4±0.1
b_2	1.0±0.1
D	Dia. 3.4±0.2

TCR, RESISTANCE RANGE, TOLERANCE, RATED POWER

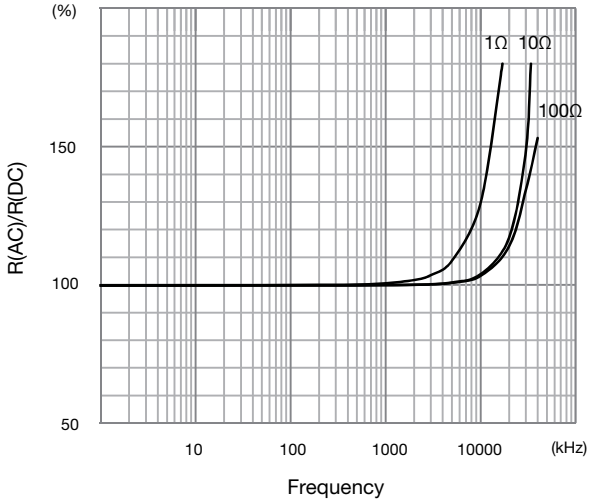
TCR (ppm/°C) –25°C to +125°C	Resistance Range (Ω)	Resistance Tolerance (%)	Rated Power (W) at 70°C
0±15 (W) 0±5 (X)	0.5 to 1	±0.05 to ±5 (A, B, D, F, G, J)	1.5 in free air and 10 on heat sink**
	1 to 5	±0.02 to ±5 (Q, A, B, D, F, G, J)	
0±15 (W) 0±5 (X) 0±2.5 (Y)	5 to 25	±0.02 to ±5 (Q, A, B, D, F, G, J)	
	25 to 500	±0.01 (T), ±0.02 (Q) ±0.05 (A), ±0.1 (B) ±0.5 (D), ±1 (F) ±2 (G), ±5 (J)	

** For heat sinking, an aluminum chassis in 152.4 mm (L) ×101.6 mm (W) × 50.8 mm (H) × 1.0 (T) shall be used.

POWER DERATING CURVE

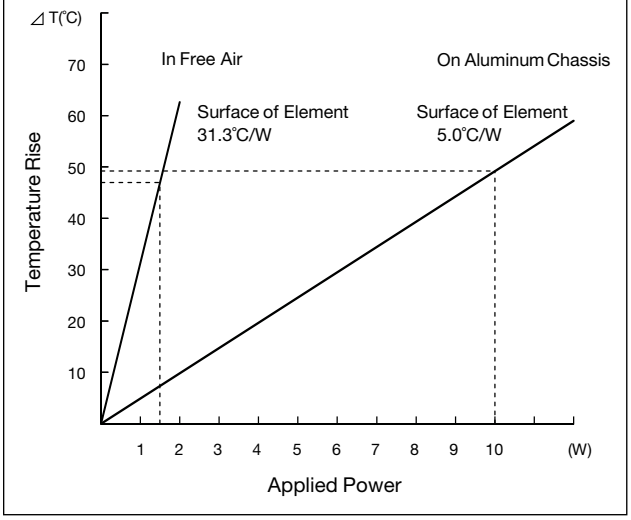


FREQUENCY CHARACTERISTICS



PERFORMANCE			
Parameters	**Test Condition**	**ALPHA Specification**	**ALPHA Typical Test Data**
Maximum Rated Operating Temperature **Working Temperature Range** **Maximum Working Current**		70°C –55°C to +155°C 5A	
Power Conditioning	25°C, Rated Power, 96 hrs.	±0.05%	±0.01%
Low Temperature Storage **Dielectric Withstanding Voltage** **Insulation Resistance** **Low Temperature Operation** **Overload** **Moisture Resistance** **Terminal Strength**	–55°C, No Load, 24 hrs. Atmo. Pres.: AC 1 KV, 1 min. Baro. Pres. 8 mHg: AC 500V, 1 min. DC 500V, 2 min. –55°C, Rated Power Rated Power x 2.5, 5 sec. +65°C to –10°C, 90% RH to 98% RH, Rated Voltage, 10 cycles (240 hrs.) 2.27 kg (5 pounds), 10 sec.	±0.01% ±0.01% over 10,000 MΩ ±0.01% ±0.05% ±0.05% ±0.05%	±0.005% ±0.005% over 10,000 MΩ ±0.005% ±0.01% ±0.02% ±0.005%
Shock **Vibration, High Frequency**	100G, 6 ms., Sawtooth Wave, X, Y, Z, each 3 shocks 20G, 10 Hz to 2,000 Hz to 10 Hz, 20 min., X, Y, Z, each 4 hrs.	±0.01% ±0.01%	±0.005% ±0.005%
Life	70°C, Rated Power, 1.5 hr. – ON, 0.5 hr. – OFF, 2,000 hrs.	±0.05%	±0.02%
High Temperature Exposure	155°C, No Load, 2,000 hrs.	±0.05%	±0.02%
Solderability	245°C, 5 sec.	over 95% coverage	

TEMPERATURE OF RESISTOR SURFACE



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