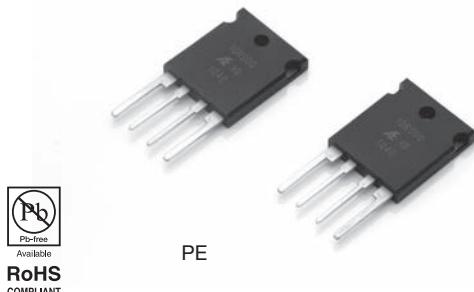


## Ultra Precision Shunt Resistor (10 Watts, TO Package)



## **COMPOSITION OF TYPE NUMBER**

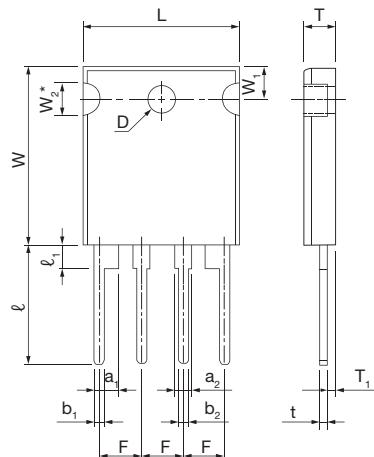
### Example:

**PE X 1R0000 B**

- Tolerance
- Resistance Value
- TCR
- Type

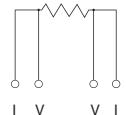
Resistance value, in ohms, is expressed by a series of six characters, five of which represent significant digits. R or K is a dual-purpose letter that designates both the value range (R for ohmic; K for kilo-ohm) and the location of the decimal point.

**CONFIGURATION (DIMENSIONS IN mm)**



\*half circle recess in molding (2)

## Schematic of PE



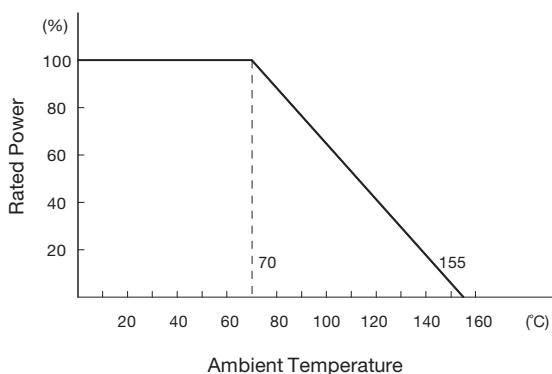
Type	PE
L	$19.0 \pm 0.5$
W	$22.0 \pm 0.5$
$W_1$	$4.0 \pm 0.2$
$W_2^*$	$4.0 \pm 0.2$
T	$4.0 \pm 0.2$
$T_1$	$1.3 \pm 0.2$
F	$5.08 \pm 0.5$
$\ell$	$15.0 \pm 1$
$\ell_1$	$3.0 \pm 0.2$
t	$0.8 \pm 0.1$
$a_1$	$3.0 \pm 0.2$
$a_2$	$2.0 \pm 0.2$
$b_1$	$1.4 \pm 0.1$
$b_2$	$1.0 \pm 0.1$
D	Dia. $3.4 \pm 0.2$

## TCR, RESISTANCE RANGE, TOLERANCE, RATED POWER

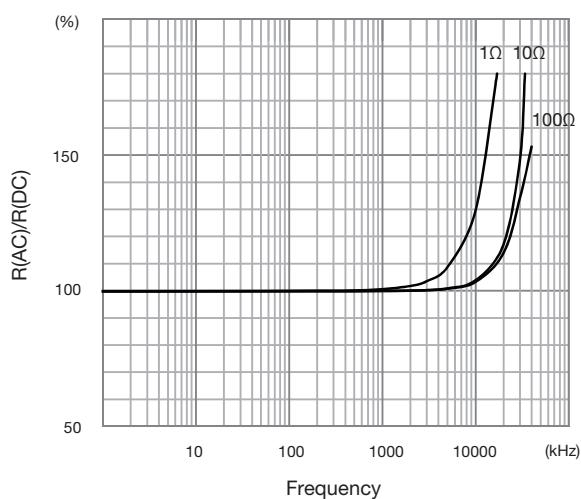
TCR (ppm/°C) -25°C to +125°C	Resistance Range (Ω)	Resistance Tolerance (%)	Rated Power (W) at 70°C
0±15 (W) 0±5 (X)	0.5 to 1	±0.05 to ±5 (A, B, D, F, G, J)	1.5 in free air and 10 on heat sink**
	1 to 5	±0.02 to ±5 (Q, A, B, D, F, G, J)	
0±15 (W) 0±5 (X) 0±2.5 (Y)	5 to 25	±0.02 to ±5 (Q, A, B, D, F, G, J)	1.5 in free air and 10 on heat sink**
	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) x 101.6 mm (W) x 50.8 mm (H) x 1.0 (T) shall be used.

## POWER DERATING CURVE



## FREQUENCY CHARACTERISTICS



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

