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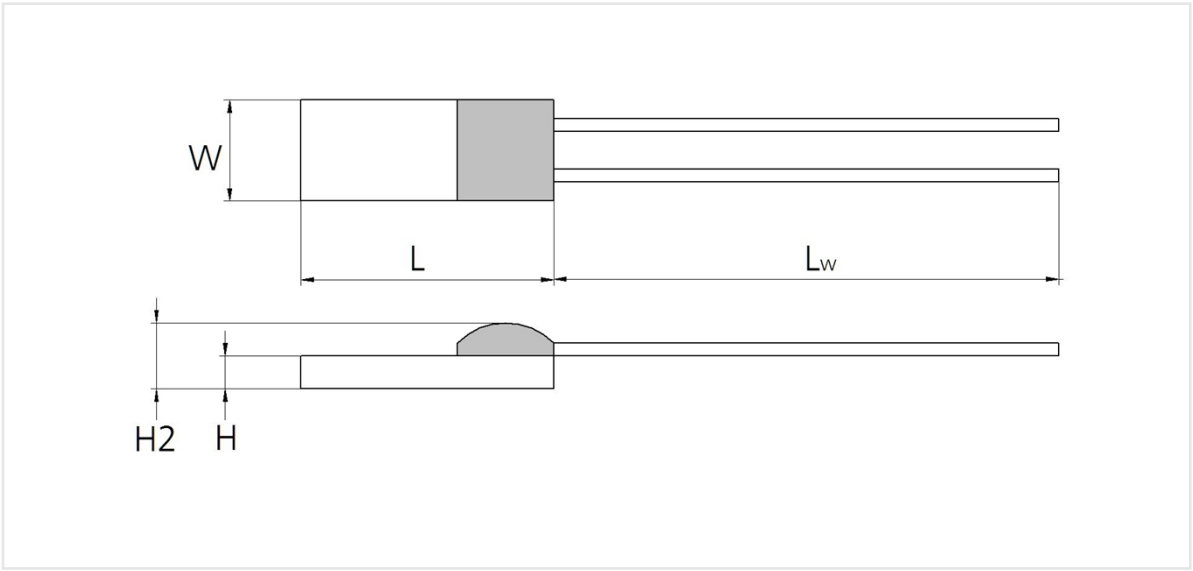
TEMPERATURE SENSOR

Order number	Product name	Rev.	Release date	Document number
157856	**PC1K0.216.7W.K.007**	1.0	10.09.2025	DBTC_0071_EN

Dimensions [mm]



General Specifications

Nominal resistance:	1000Ω @ 0°C
TCR:	3850 ppm/K
Temperature range:	-258 °C to + 200 °C
Tolerance/class:	-258 °C to -200 °C: ±3 K[1)] -200 °C to +200 °C : IEC60751 F0.15
Temperature dependence of resistivity:	-258 °C to -200 °C: interpolated IST resistance table [2)] According to IEC60751 : -200 °C to 0 °C $R(T) = R_0 \cdot (1+A \cdot T + B \cdot T^2 + C \cdot [T-100] \cdot T^3)$ 0 to +200 °C $R(T) = R_0 \cdot (1+A \cdot T + B \cdot T^2)$ $A = 3.9083 \cdot 10^{-3} \cdot °C^{-1}$, $B = -5.775 \cdot 10^{-7} \cdot °C^{-2}$, $C = -4.183 \cdot 10^{-12} \cdot °C^{-4}$ R_0 = resistance value in Ohm at 0 °C T = temperature in accordance with ITS90

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Dimensions [mm]:	L ±0.2	W ±0.2	H ±0.2	H2 ±0.3	LW ±2
	2.4	1.4	0.4	0.8	7.0
Lead wires:	Platinum wire, Ø0.2 mm				
Measuring current: (recommended)	0.1 mA (self-heating must be considered)				
Special:	Uncalibrated sensors. Precision level below -200°C can be referenced to the interpolated temperature-resistance table below.				

1) Please contact IST if a better precision is needed.
2) Interpolated resistance vs temperature table between 15K (-258.15°C) and 77 K (-196.15°C).
   T (°C) = -273.15+T(K)

T(K)	R(Ω)	T(K)	R(Ω)	T(K)	R(Ω)
15.2	18.6776	36	48.9558	56.8	118.7051
16	19.0508	36.8	51.0331	57.6	121.8473
16.8	19.4765	37.6	53.1720	58.4	125.0094
17.6	19.9576	38.4	55.3712	59.2	128.1902
18.4	20.4952	39.2	57.6290	60	131.3884
19.2	21.0905	40	59.9438	60.8	134.6030
20	21.7445	40.8	62.3140	61.6	137.8329
20.8	22.4587	41.6	64.7378	62.4	141.0770
21.6	23.2345	42.4	67.2136	63.2	144.3345
22.4	24.0739	43.2	69.7396	64	147.6044
23.2	24.9785	44	72.3141	64.8	150.8858
24	25.9501	44.8	74.9354	65.6	154.1780
24.8	26.9902	45.6	77.6017	66.4	157.4801
25.6	28.0999	46.4	80.3113	67.2	160.7916
26.4	29.2803	47.2	83.0623	68	164.1116
27.2	30.5319	48	85.8532	68.8	167.4396
28	31.8553	48.8	88.6821	69.6	170.7751
28.8	33.2504	49.6	91.5474	70.4	174.1175
29.6	34.7172	50.4	94.4474	71.2	177.4663
30.4	36.2554	51.2	97.3804	72	180.8212
31.2	37.8644	52	100.3448	72.8	184.1815
32	39.5436	52.8	103.3391	73.6	187.5471
32.8	41.2919	53.6	106.3617	74.4	190.9176
33.6	43.1085	54.4	109.4110	75.2	194.2926
34.4	44.9921	55.2	112.4856	76	197.6719
35.2	46.9417	56	115.5841	76.8	201.0552

Additional Documents

Document	**File name**
Application Note Temperature Platinum	ATP_E

RoHS

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