

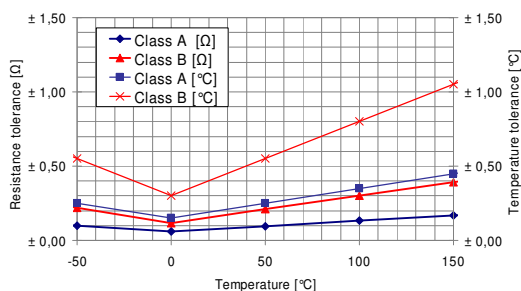
Technical Data

Resistance at 0 °C	100 Ω
Temperature coefficient (0 °C up to 100 °C)	$3.85 \cdot 10^{-3} \text{ K}^{-1}$
Tolerance class to DIN EN 60751	A, B
Operating temperature range	-50 °C up to 150 °C
Measurement current (DC) at 25 °C	1 mA
Maximal permissible peak current (DC) at 25 °C	3 mA
Insulation resistance	> 10 MΩ
Self-heating at 0 °C	< 0.4 K / mW
Thermal response time	
Flowing water (v = 0.2 m/s)	$T_{0.5} = 0.2 \text{ s}$ $T_{0.9} = 0.5 \text{ s}$
Flowing air (v = 1 m/s)	$T_{0.5} = 4 \text{ s}$ $T_{0.9} = 10 \text{ s}$
Resistance value at	
at 0 °C (Tolerance class A)	$100.00 \Omega \pm 0.060 \Omega$
at 100 °C (Tolerance class A)	$138.51 \Omega \pm 0.13 \Omega$
at 0 °C (Tolerance class B)	$100.00 \Omega \pm 0.12 \Omega$
at 100 °C (Tolerance class B)	$138.51 \Omega \pm 0.30 \Omega$
Maximal Resistance Change at UCT 250 h	< 0.1 %

Construction	SMD 1206
Specification	DIN EN 60751
Technology	Advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer)
Conformity	2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)
Dimensions [mm]	

Functional performance

according to DIN EN 60751



Picture 1: Resistance and temperature tolerances of CPT 100 SMD 1206

Temperature range of -50 °C up to 0 °C:

$$R_T = R_0 \cdot (1 + A \cdot T + B \cdot T^2 + C \cdot (T - 100 \text{ °C}) \cdot T^3)$$

Temperature range of 0 °C up to 150 °C:

$$R_T = R_0 \cdot (1 + A \cdot T + B \cdot T^2)$$

Tolerance classes to DIN EN 60751:

Class A: $\Delta T = \pm (0.15 + 0.002 \cdot |T|)$

Class B: $\Delta T = \pm (0.3 + 0.005 \cdot |T|)$

Whereby:

R_T ... Resistance [Ω] at temperature T

R_0 ... Resistance [Ω] at 0 °C

T ... Temperature [°C]

ΔT ... Permissible temperature deviation at T [°C]

$$A = 3.9083 \cdot 10^{-3} \text{ °C}^{-1}$$

$$B = -5.775 \cdot 10^{-7} \text{ °C}^{-2}$$

$$C = -4.183 \cdot 10^{-12} \text{ °C}^{-4}$$

Fields of application

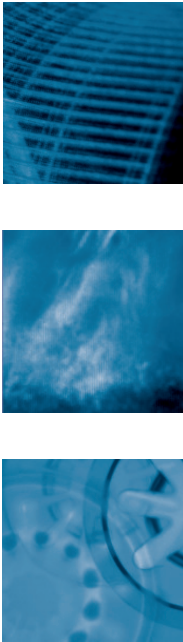
- Industrial electronics
- Automotive electronics
- Energy and environmental engineering

Ordering information

Please use the following code:

Product code	Type	Construction	Class of accuracy	Temperature range [°C]
51206902	CPT 100	SMD 1206	A	-50/150
51206901	CPT 100	SMD 1206	B	-50/150

Other classes of accuracy are available on request.



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