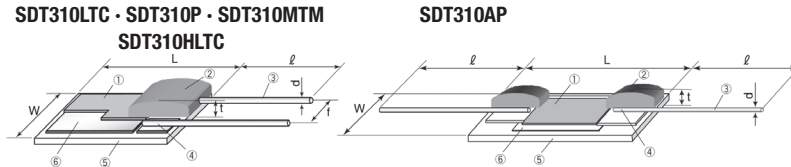
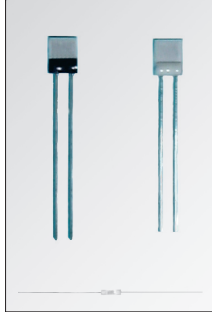


THERMAL SENSORS

THIN FILM PLATINUM SENSOR

SMALL

SDT310



STRUCTURE

- 1 Protective coating
- 2 Lead weld reinforcing coating
- 3 Lead wire
- 4 Welding point
- 5 Ceramic substrate
- 6 Platinum thin film

IDENTIFICATION

PRODUCT CODE	COATING COLOR	MARKING
SDT310	Clear	None

All these products have Pb-free terminations and meet EU-RoHS requirements

TYPE DESIGNATION (HOW TO ORDER)

SDT310	LT	C	1K	C	3850	
PRODUCT CODE	TEMPERATURE RANGE	TERMINATION SURFACE MATERIAL	NOMINAL RESISTANCE	CLASS	T.C.R.	Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS
	Blank: -55°C~+400°C LT: -55°C~+155°C MT: -55°C~+650°C	C: SnCu(SDT310LT • SDT310HLC) P: Pt clad wire (SDT310 • 310A) M: PtIr(SDT310MT) (PtIr = Platinum/Iridium)	100: 100 Ω 500: 500 Ω 1K: 1 kΩ	A: ±(0.15+0.002 t) B: ±(0.3+0.005 t) C: ±(1.0+0.01 t) K: ±10% (SDT310A)	Unit: ppm/K	
	SIZE A: A style H: H style 'Blank': Standard					

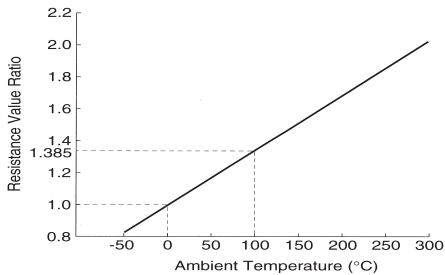
FEATURES

- Excellent stability (environmental tests)
- Perfect linear relationship between resistance and temperature
- Superwide operating temperature range (up to +650°C)
- Minimum size (2 mm x 3 mm) and quick response
- T.C.R. is in accordance with JIS/DIN standards
- Real ability of 1 kΩ resistance value
- Various products are available to meet the customers request
- Ideal for use as air flow sensor for automobile (Pt100 level, 1 kΩ, JIS B class) in temperature control units, or as temperature compensation/detection for several applications (e.g. air conditioner, electron microscopes, inside automobile, electric fuel injection systems etc.)
- Meets or exceeds IEC 60751, JIS C 1604, DIN EN 60751

DIMENSIONS (mm)

Type	W	L	t	f	d (Nominal)	l
SDT310LTC SDT310P SDT310MTM	2.0±0.25	3.0±0.25	1.2 max.	1.1±0.25	∅0.2±0.05	10 ^{-5.2} 8 ± 2
SDT310HLC	1.2±0.10	2.0±0.1 (100 Ω) 5.0±0.1 (1kΩ)	1.1 max.	0.3±0.1		10 ^{-5.2}
SDT310AP	0.8±0.20	3.0±0.25	1.2 max.	-		8 ± 2

RESISTANCE-TEMPERATURE CHARACTERISTICS



PRECAUTIONS

- It is difficult to solder SDT310 because heat-resistant leads are used. Please use welding to connect the lead wires.
- When measuring current higher than specified current is used, calculate a rise in temperature by self heating and confirm the error range.
- If SDT310 is used by being molded or placed in a metal protection tube filling with resin, the resistance value may occasionally vary slightly depending on the resin used.

RATING

TYPE	RESISTANCE (at 0°C)	CLASS: TOLERANCE OF MEASURING TEMP. *1	RESISTANCE TOLERANCE	T.C.R. *2 (ppm/K)	THERMAL TIME CONSTANT *3	THERMAL DISSIPATION CONSTANT	SPECIFIED CURRENT *4	OPERATING TEMPERATURE RANGE
SDT310LTC	100 Ω 500 Ω, 1 kΩ	A: ±(0.15+0.002 t) °C	±0.059%	3850	7 sec. in stationary air	0.9 mW/K	10Ω, 100Ω 1 mA max.	-55°C...+155°C
SDT310P		B: ±(0.3+0.005 t) °C	±0.12%					-55°C...+400°C
SDT310MTM	C: ±(1.0+0.01 t) °C	±0.39%	500Ω, 1kΩ 0.1 mA max.				-55°C...+650°C	
SDT310HLC	A: ±(0.15+0.002 t) °C	±0.059%	2.8 sec. in stationary air				1.0 mW/K	-55°C...+155°C
SDT310AP	B: ±(0.3+0.005 t) °C	±0.12%			6 s. in stationary air	-55°C...+400°C		
		C: ±(1.0+0.01 t) °C	±0.39%					
			±10%					

(*1) |t| is a measuring temperature indicated at °C that is not related to marking ± (absolute value of a temperature).

(*2) T.C.R. Measuring Temperature: 0°C/+100°C

(*3) Thermal time constant and dissipation constant are values measured in stationary air and are typical values, which are values of elements and vary with connecting of fixing methods.

(*4) The electricity which is charged with in the element is moved to the range that rise in temperature due to a self-heat generation can be ignored. Recommended measuring currents are 1mA for 100Ω and 0.1mA for 500 Ω or 1kΩ. SDT310AP can be used as hot-film sensor. Maximum specified current is 100 mA when using under self-heating condition.

Rated voltage = √ Power rating x resistance value