

# THERMAL SENSORS

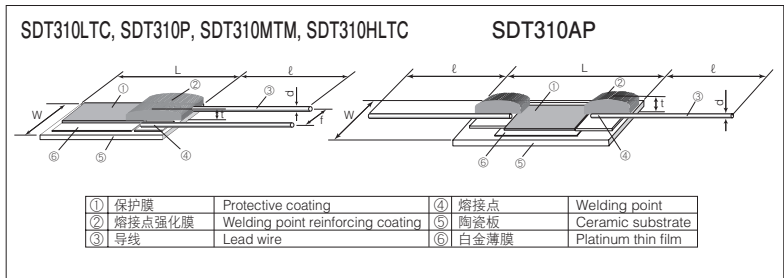


温度传感器  
Thermal Sensors

## SDT310 小型白金薄膜温度传感器 Small Type Platinum Thin Film Thermal Sensors



### ■ 结构图 Construction



### ■ 特点 Features

- 电阻温度特性 (T.C.R) 相当于 JIS•DIN 标准。
- 是小型组件, 有电阻值 1kΩ 的实力。
- 通过引进小型组件, 改进了热时间常数。
- 符合欧盟 RoHS。玻璃中所含铅玻璃, 不包含在欧盟 RoHS 指令中。
- T.C.R. is equivalent to JIS • IEC standards.
- The small package with a real ability of 1kΩ resistance.
- Thermal time constant is improved with the small package.
- Products meet EU-RoHS requirements. EU-RoHS regulation is not intended for Pb-glass contained in glass.

### ■ 用途 Applications

- 检测空调设备的外部气温、过滤器的阻塞。
- 测定汽车的电子喷射燃料装置的流量, 进气温度补偿, 油温检测。
- 热电偶温度调节器的冷端补偿, 测温探头。
- 风速计的热线、温度补偿。
- 通信设备的收发信电路的温度补偿。
- Detections of outer air temperatures filter clogging of Air Conditioners.
- Cold Point compensation and temperature detection probe for thermocouple temperature controllers.
- Hot wires and temperature compensation of anemometers.
- Temperature compensation and revision for RF circuit of telecommunication equipment.

### ■ 额定值 Ratings

型号 Type	电阻值 Resistance Range at 0°C	等级*1 对测定温度的阻值允许偏差 Class: Tolerance of Measuring Temp.	阻值允许偏差 Resistance Tolerance	电阻温度系数*2 T.C.R. (×10 <sup>-6</sup> /K)	热时间常数*3 Thermal Time Constant	热消散系数*3 Thermal Dissipation Constant	规定电流*4 Specified Current	使用温度范围 Operating Temperature Range
SDT310LTC	100Ω 500Ω, 1kΩ	A: ±(0.15+0.002 t) °C	±0.059%	3850	7.0s in stationary air	0.9mW/°C	10Ω, 100Ω 1mA max.	-55°C~+155°C
		B: ±(0.3+0.005 t) °C	±0.12%					
		C: ±(1.0+0.01 t) °C	±0.39%					
SDT310P	100Ω 500Ω, 1kΩ	A: ±(0.15+0.002 t) °C	±0.059%					
		B: ±(0.3+0.005 t) °C	±0.12%					
		C: ±(1.0+0.01 t) °C	±0.39%					
SDT310MTM	100Ω	B: ±(0.3+0.005 t) °C	±0.12%					
		C: ±(1.0+0.01 t) °C	±0.39%					
		A: ±(0.15+0.002 t) °C	±0.059%					
SDT310HLTC	1kΩ	B: ±(0.3+0.005 t) °C	±0.12%					
		C: ±(1.0+0.01 t) °C	±0.39%					
		A: ±(0.15+0.002 t) °C	±0.059%					
SDT310AP	10Ω	-	±10%	3850±2%	6s in stationary air	1.0mW/°C	0.1mA max.	-55°C~+400°C

\*1 T.C.R.测定温度0°C/+100°C T.C.R. Measuring Temperature: 0°C/+100°C

\*2 热时间常数、热消散系数是在静止空气中测定的值, 是参考值, 也是元件单体的值。元件单体值会因连接方法和固定方法而变化。

\*3 根据材料本身流过电流会发热可以忽略不计。推荐用于测量电流 1mA 时 500Ω 或 100Ω 和 1kΩ 为 0.1mA。SDT310AP 可作为热膜传感器。指定的最大电流为 100mA 条件下使用。

\*2 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 or fixing methods.

\*3 The electricity which it 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 500Ω or 1kΩ. SDT310AP can be used as hot-film sensor. Maximum specified current is 100mA when using under self-heating condition.

### ■ 使用注意事项 Precautions for Use

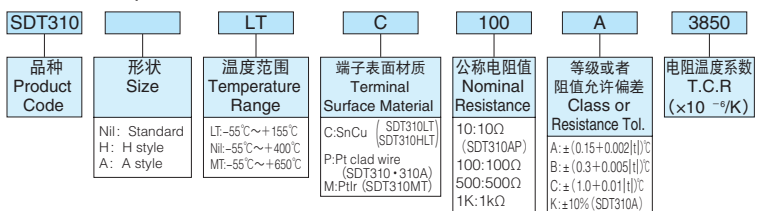
- SDT310P, SDT310MTM 和 SDT310AP, 由于采用了耐热性导线, 所以钎焊困难。导线的连接请使用电焊。
- 使用电流在 1mA 以上时, 应计算因自身发热的温度上升, 确认误差。
- 把 SDT310 模压加工, 在金属保护管内填充树脂后使用时, 因使用树脂不同, 有极小的电阻值变化。
- It is difficult to solder SDT310P, SDT310MTM and SDT310AP because of using heat-resistant leads. Make use of welding to connect the leads wire.
- When an operating current is 1mA or more, calculate a rise in temperature by self-heating to confirm an error.
- If SDT310 series is used by being molded or placed in a metal protection tube filled with resin, the resistance value may occasionally vary slightly depending on the resin used.

### ■ 外形尺寸 Dimensions

型号 Type	尺寸 Dimensions (mm)						Weight (g) (1000pcs)
	W	L	t	f	d (Nominal)	ℓ	
SDT310LTC	2.0±0.25	3.0±0.25	1.2Max.	1.1±0.25	φ0.2±0.05	10 <sup>-5</sup>	18.5
SDT310P						8±2	24.5
SDT310MTM						10 <sup>-5</sup>	25.4
SDT310HLTC	1.2±0.10	5.0±0.10 (1kΩ)	1.1Max.	0.3±0.1		10 <sup>-5</sup>	17.4
SDT310AP	0.8±0.2	3.0±0.25	1.2Max.	-		8±2	13.1

### ■ 品名构成 Type Designation

#### 实例 Example



欲知关于此产品含有的环境有害物质详情 (除 EU-RoHS 以外), 请与我们联系。

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

### ■ 参考标准 Reference Standards

IEC 60751 JIS C 1604

