

features

- All ST-series thermal sensors are custom-made products. ST-series thermal sensors are designed in various shapes in accordance with your application using a platinum thin-film thermal sensor (SDT101, SDT310 series) as an element. Shapes of sensor parts can be designed flexibly to meet your shapes and dimensional needs, from simple resin mold parts to sensor parts sealed in metal protective tubes made of SUS316.

ordering information

ST3000 Series

New Part #	ST	31050201	F	A	X	1K	B	D
	Type	Type Number	Pb Free Symbol	Element Type	Reference Temperature	Nominal Resistance	Resistance Tolerance	T.C.R. Tolerance
				A: SDT101	X: 0°C	100: 100Ω 500: 500Ω 1K: 1kΩ	B: ±0.1% C: ±0.2% D: ±0.5% F: ±1%	D: ±0.5% F: ±1% G: ±2%

* ST3000 series products with a reference temperature of 25°C (T.C.R. will be calculated between 0°C/100°C.) are also available. Consult the factory.

ST8100 Series

New Part #	ST	81010001	F	B	X	1K	B
	Type	Type Number	Pb Free Symbol	Element Type	Reference Temperature	Nominal Resistance	Class
				B: SDT310LT C: SDT310	X: 0°C	100: 100Ω 500: 500Ω 1K: 1kΩ	B: ±(0.3+0.005 [t]) C: ±(1.0+0.01 [t])

applications and ratings

Part Designation	Element	Resistance Value at 0°C	Class: Tolerance to Measuring Temperature	Resistance Tolerance	T.C.R. (x 10 ⁻⁶ /K)	T.C.R. Tolerance (ppm/°C)
ST3000	SDT101A SDT101B	100Ω 500Ω 1kΩ	—	B: ±0.1% C: ±0.2% D: ±0.5% F: ±1%	3500	D: ±0.5% F: ±1% G: ±2%
ST8100	SDT310LT SDT310	100Ω 500Ω 1kΩ	B: ±(0.3+0.005[t]) C: ±(1.0+0.01[t])	—	3850	—

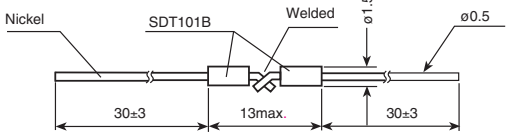
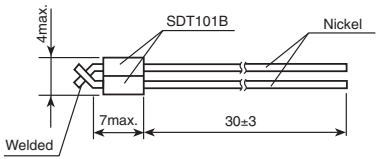
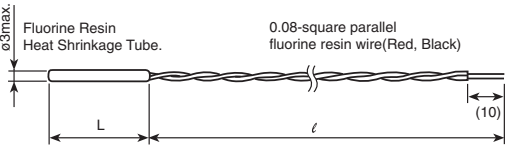
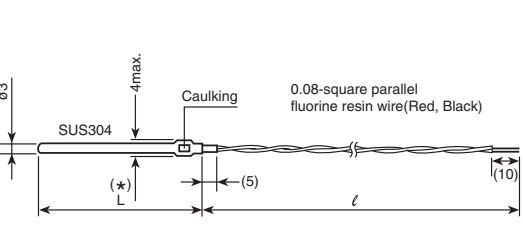
* ST3000 Series, 1kΩ, resistance tolerance B • C are produced in pair of SDT101Series. The combination of ST3000 series, resistance tolerance B-T.C.R. and tolerance D is equivalent to class B of SDT310 tolerance to the measuring temperature.

environmental applications

Example of	Material	
Processing Protective Tubes	PPS	
	Epoxy resin coating	
	Fluorine resin shrinkage tube	
	Polyimide	
	SUS304	
	SUS316	
Processing External Conductors	CU	
	Polyurethane coated wire	
	Parallel heat-resistant vinyl chloride wire	
	Fluorine resin coated wire	
	Form	
	2-wire system	
3-wire, 4-wire system		
Shielded wire		

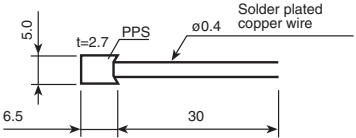
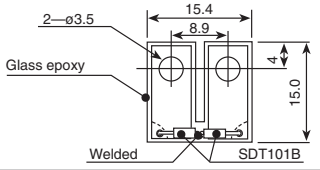
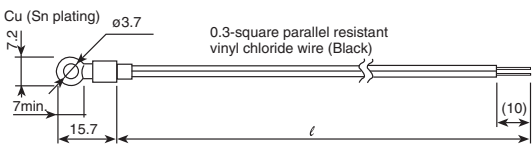
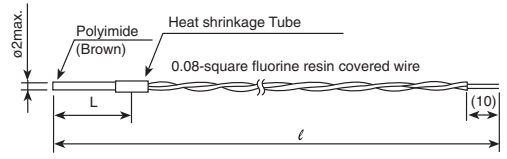
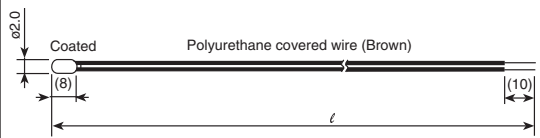
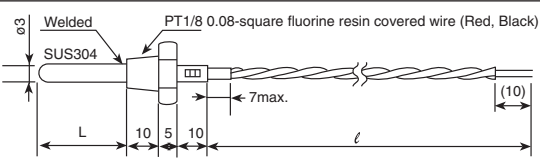
Example of	
Processing of Terminals	Processing of connecting terminals
Others	Mounting on printed circuit board

Performance Characteristics - ST3000 series

Shape	Unit: mm	Product	L	ℓ	Measurement Temperature Range
 <p>Nickel, SDT101B, Welded, $\phi 1.5$, $\phi 0.5$, 30 ± 3, 13max., 30 ± 3</p>		31011 Lead wire without solder plating	—	—	-50°C ~ +300°C
		31012 Lead wire with solder plating	—	—	-40°C ~ +120°C
 <p>SDT101B, Nickel, Welded, 4max., 7max., 30 ± 3</p>		31021 Lead wire without solder plating	—	—	-50°C ~ +300°C
		31022 Lead wire with solder plating	—	—	-40°C ~ +120°C
 <p>$\phi 3 \text{max.}$, Fluorine Resin Heat Shrinkage Tube, 0.08-square parallel fluorine resin wire (Red, Black), L, ℓ, (10)</p>		31050201	23 max.	0.1	-40°C ~ +220°C
		31050205		0.5	
		31050210		1.0	
		31050230		3.0	
 <p>$\phi 3$, SUS304, Caulking, 0.08-square parallel fluorine resin wire (Red, Black), 4max., L, (5), ℓ, (10)</p> <p>* For product of resistance 1kΩ or product of resistance tolerance B, C, L=30mm is only available.</p>		31060301	30	0.1	-40°C ~ +220°C
		31060305		0.5	
		31060310		1.0	
		31060330		3.0	
		31060501	50	0.1	
		31060505		0.5	
		31060510		1.0	
		31060530		3.0	

environmental applications (continued)

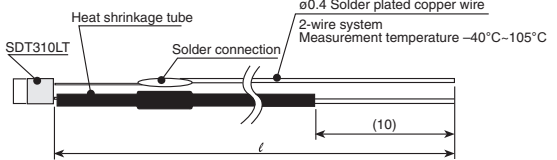
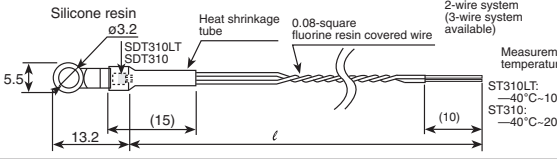
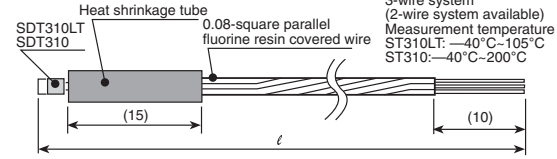
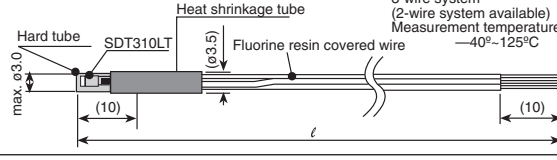
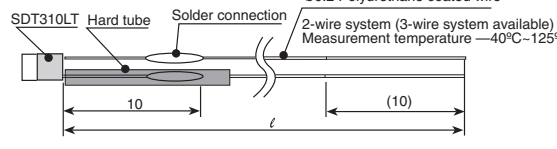
Performance Characteristics - ST3000 series

Shape	Unit: mm	Product	L	ℓ	Measurement Temperature Range
		3201	—	—	-20°C ~ +120°C
		3202	—	—	-40°C ~ +140°C
		32050001	—	0.1	-20°C ~ +80°C
		32050005		0.5	
		32050010		1.0	
		32050030		3.0	
		32090201	24	0.1	-40°C ~ +120°C
		32090205		0.5	
		32090210		1.0	
		32090230		3.0	
		33010004	8	0.4	-20°C ~ +80°C
		33110305	30	0.5	-40°C ~ +220°C
		33110310		1.0	
		33110330		3.0	

environmental applications (continued)

Performance Characteristics - ST8100 series

Circuit protection

Shape	Unit: mm	Product	ℓ	Lead Wire Number
		8101201	0.1	2
		8102201	0.1	2
		8102205	0.5	
		8102210	1.0	
		8103301	0.1	3
		8103305	0.5	
		8103310	1.0	
		8104301	0.1	3
		8104305	0.5	
		8104310	1.0	
		8105201	0.1	2