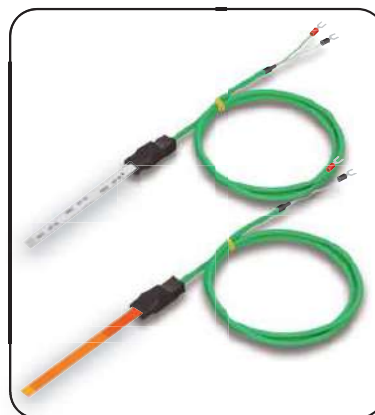
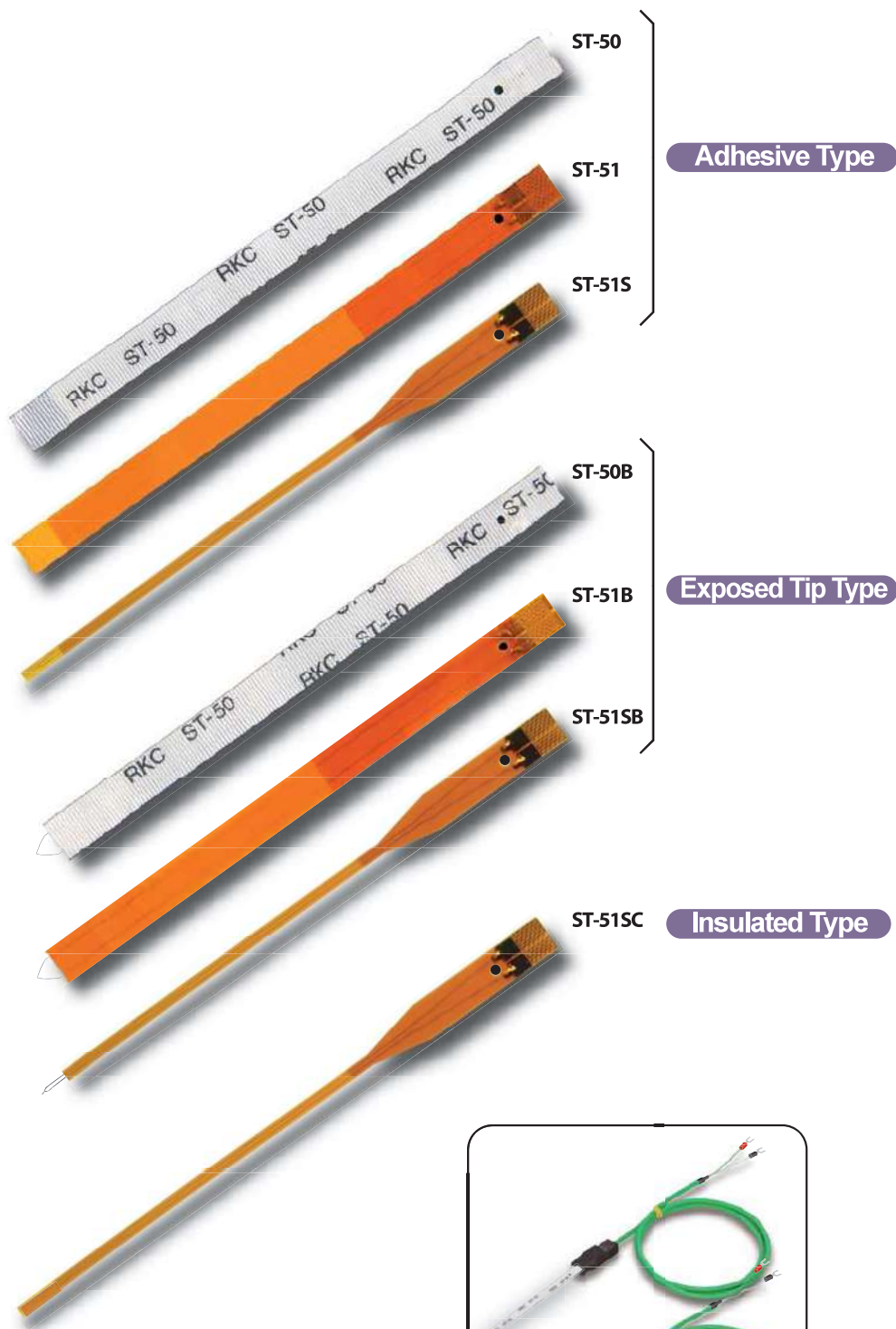


# Film Type TEMPERATURE SENSORS

Film Type Temperature Sensors  
(Type K Thermocouple)

## ST-50 Series



**RKC**

RKC INSTRUMENT INC

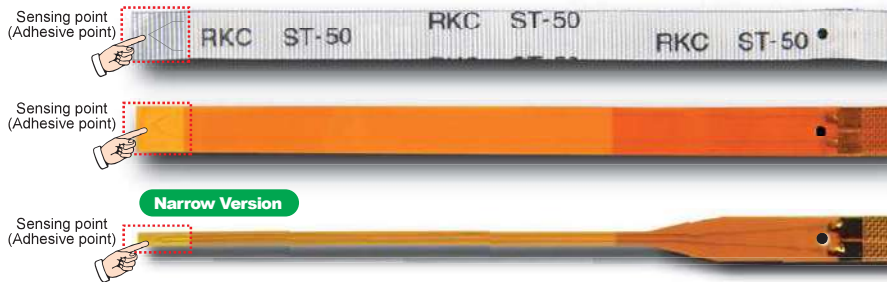
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# 「Self-Adhesive」「Thin Design」 Film Type Thermocouple Sensors

## Adhesive Type

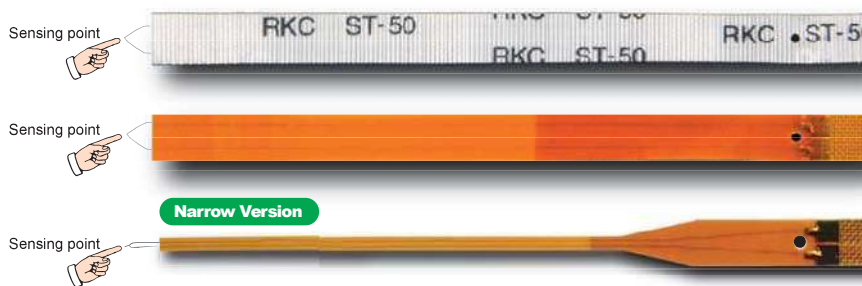


**ST-50** **Max. 300°C**  
Glass cloth base type

**ST-51** **Max. 300°C**  
Polyimide sheet type

**ST-51S** **Max. 300°C**  
Polyimide sheet type

## Exposed Tip Type

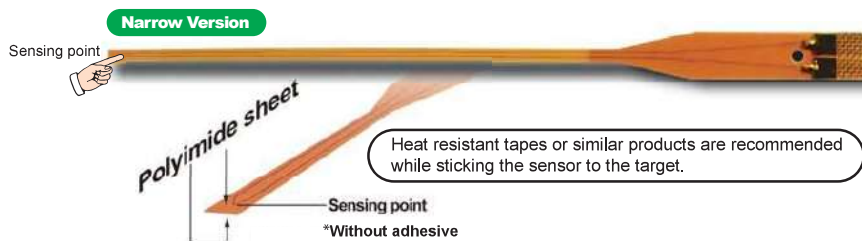


**ST-50B** **Max. 300°C**  
Glass cloth base type

**ST-51B** **Max. 300°C**  
Polyimide sheet type

**ST-51SB** **Max. 300°C**  
Polyimide sheet type

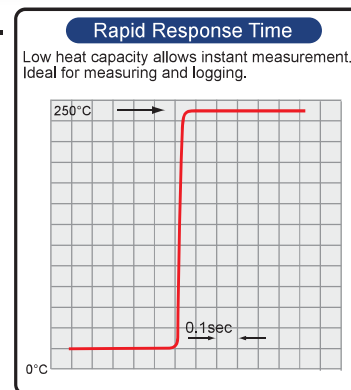
## Insulated Type



**NEW**  
**ST-51SC** **Max. 300°C**  
Polyimide sheet type

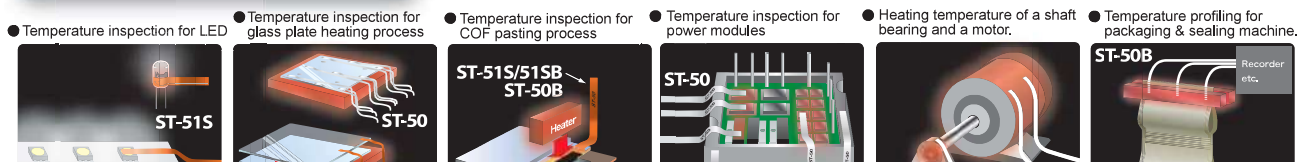
## Features

- Ideal for measuring hard-to-reach target with its thin film design.
- Compatible with all Type K Thermocouple Input instruments.
- Easily stick on target with Self-Adhesive Type or insert between two touching surfaces with Exposed Tip Type. Use Polyimide (PI) Insulated Type for applications where electrical insulation is needed.



< ST-50B / ST-51B / ST-51SB characteristic curve >

## Measuring Examples



0.34-mm-thick glass cloth.

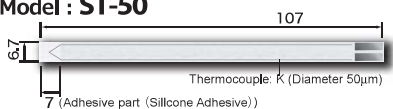

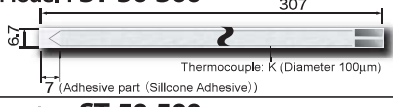

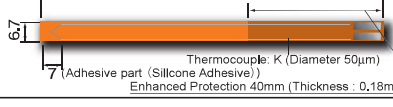
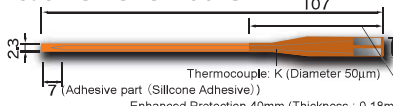
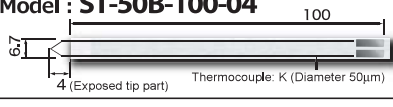
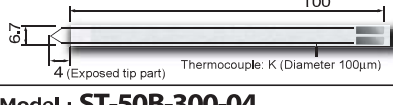
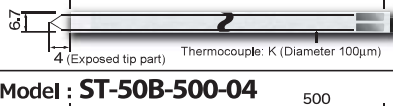
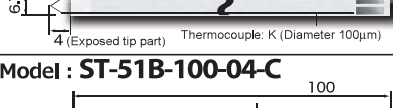
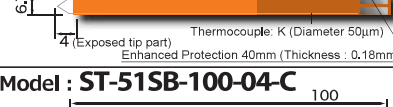

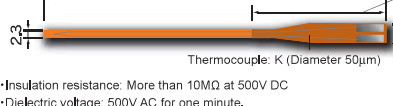
Available in lengths of 100/300/500mm.

- Thermocouple wire diameter of 50 $\mu$ m and 100 $\mu$ m are available with 100mm long sensor.
- Thermocouple wire diameter of 100 $\mu$ m is available with 300mm and 500mm long sensors.

0.13-mm-thick Polyimide (PI) film.

Ideal for using in cleanroom facilities.

- Please consult our sales representative for length of 300mm or 500mm

Model/Dimensions <div>Unit : mm</div>		Specification							
		Type	Film Thickness (mm)	Film Material	Measuring Range(*1)	95% of Response Time(*2)	Resistance with 1m of extension wire	Accuracy (*3)	Packaging
<b>Model : ST-50</b> 		Adhesive Type	0.34	Glass cloth base	0~300°C	0.08sec.	51Ω	±1.3°C	5 pieces/pack
<b>Model : ST-50-100-D</b> 							17Ω	±1.5°C	5 pieces/pack
<b>Model : ST-50-300</b> 							41Ω	±1.5°C	1 piece/pack
<b>Model : ST-50-500</b> 							66Ω	±1.5°C	1 piece/pack
<b>Model : ST-51-100-C</b> 							0.13	Polyimide sheet	-40~+300°C
<b>Model : ST-51S-100-C</b> 		51Ω	±1.2°C	5 pieces/pack					
<b>Model : ST-50B-100-04</b> 		Exposed Tip Type	0.34	Glass cloth base	0~300°C	0.03sec.	51Ω	±1.3°C	5 pieces/pack
<b>Model : ST-50B-100-04-D</b> 							17Ω	±1.5°C	5 pieces/pack
<b>Model : ST-50B-300-04</b> 							41Ω	±1.5°C	1 piece/pack
<b>Model : ST-50B-500-04</b> 							66Ω	±1.5°C	1 piece/pack
<b>Model : ST-51B-100-04-C</b> 							0.13	Polyimide sheet	-40~+300°C
<b>Model : ST-51SB-100-04-C</b> 		51Ω	±1.2°C	5 pieces/pack					
<b>Model : ST-51SC-100-C</b> 		Insulated Type	0.32sec.	51Ω	±1.2°C	5 pieces/pack			
*Insulation resistance: More than 10MΩ at 500V DC *Dielectric voltage: 500V AC for one minute.									

Type of sensor: Type K thermocouple element class 2

(\*1) Self-Adhesive section is good for multiple uses under following conditions: 1. Object temperature  $\leq 150^{\circ}\text{C}$ . 2. Object temperature is maintained between  $150^{\circ}\text{C}$  and  $200^{\circ}\text{C}$ . 3. Object temperature is maintained between  $250^{\circ}\text{C}$  and  $300^{\circ}\text{C}$ .

\*Result may be affected by environment and object surface condition.

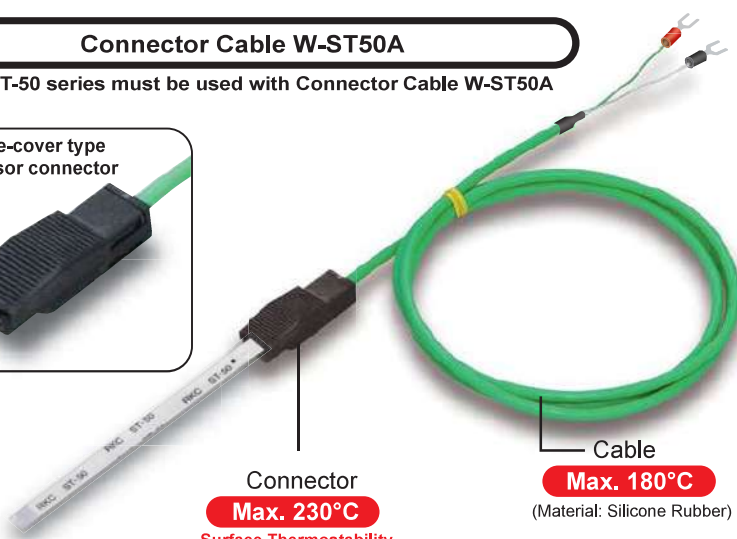
\*Silicone adhesive is used and no siloxane is generated.

(\*2) While measuring paraffin wax temperature of  $250^{\circ}\text{C}$ .

## Connector Cable W-ST50A

\* All ST-50 series must be used with Connector Cable W-ST50A

Slide-cover type  
sensor connector



Connector

**Max. 230°C**

Surface Thermostability

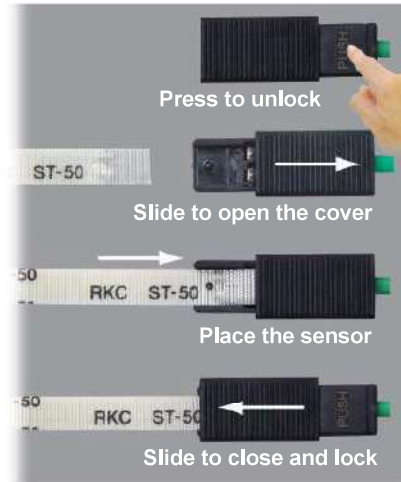
(Material: Polyphenylene sulfide (PPS))

Cable

**Max. 180°C**

(Material: Silicone Rubber)

Easy for sensor installation and exchange  
Slide-cover type sensor connector



## Connector Cable Models

### ST-50 Series



Connector Cable

Cable length : 1m (Standard)

\*Please consult our sales representative for cable length other than 1m

## Connector Cable Specification

**Connector material:** Polyphenylene sulfide (PPS)

**Connector Surface thermostability:** 230°C

**Cable material:** Silicone Rubber(Green)

**Cable thermostability:** 180°C

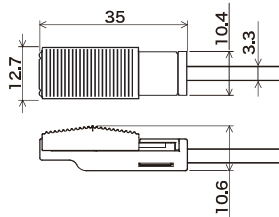
**Thermocouple Extension Wire:** KX Class 1,  $\Phi$ 3.3mm Standard 1m

**Resistance with 1m cable:** 8.5Ω or less

**Weight:** Approx. 20g (1m cable, Y-shaped terminal lug)

### ● Connector Cable Dimensions

Unit : mm



W-ST50A-1000-Y3

Y-shaped terminal lug

W-ST50A-1000-N

Solder

W-ST50A-1000-C

Non-treatment

W-ST50A-1000-TM1

Miniature-Thermocouple connector plug (CMP-01)

W-ST50A-1000-6C

Connector for DP-700

W-ST50A-1000-3C

Connector for DP-350

Indicator, Controller, Recorder

AG500, etc

FZ Series, etc

VGR-B100, etc

Temperature measuring instrument (Thermocouple K Input type)

Handheld Thermometer

DP-700

DP-350



This product is intended for use with industrial machines, test and measuring equipment. It is not designed for use with medical equipment.  
If it is possible that an accident may occur as a result of the failure of the product or some other abnormality, an appropriate independent protection device must be installed.  
Do not touch the sensor with high-voltage connections or high-current line such as power supply terminals, or do not stick the sensor to avoid electric shock or failure.

### Caution for the export trade

All transactions must comply with laws, regulations, and treaties.

**RKC** RKC INSTRUMENT INC.  
(RIKA KOGYO CO.,LTD)

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