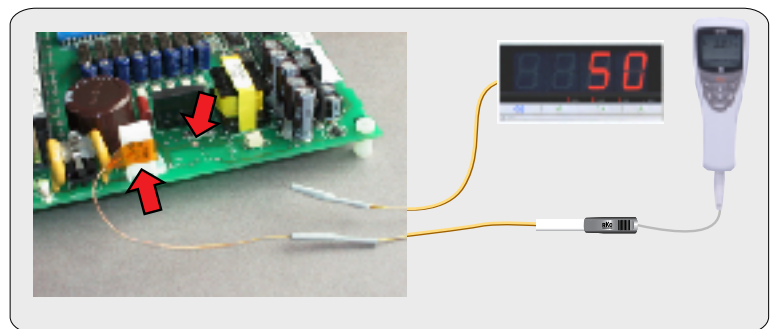
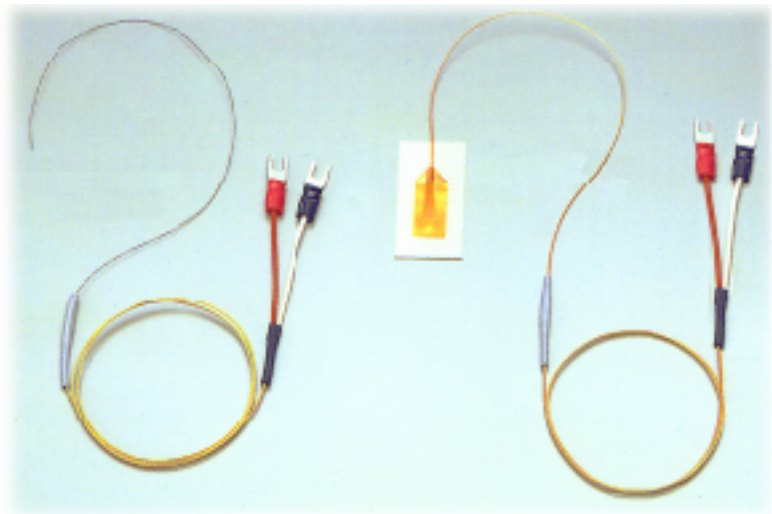


# TEMPERATURE SENSOR

## ST-55/56

Temperature Sensor  
for Extremely Small Surface



# Type K thermocouple to measure the temperature of a fine surface

## Features

### Measuring temperature in a small surface area

A fine thermocouple enables measurement of a fine surface or a surface with small thermal capacity such as SMT parts.

### Maximum temperature measurement

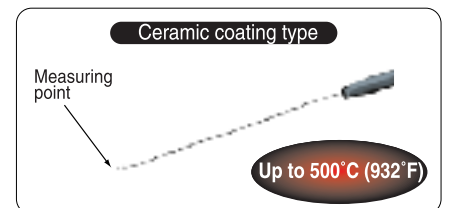
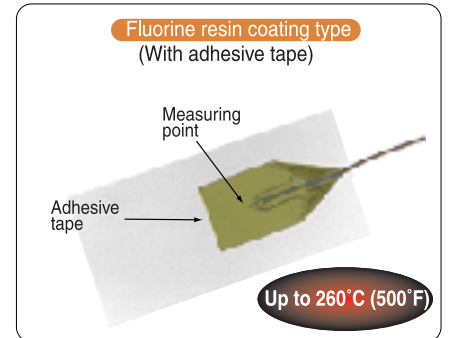
Ceramic coating type sensor is rated to 500°C (932°F) and fluorine resin coating type sensor is rated to 260°C (500°F).

### Optional adhesive tape on the tip

Optional adhesive tape on the fluorine resin coating type allows the tip to stick to an exact spot for measurement.

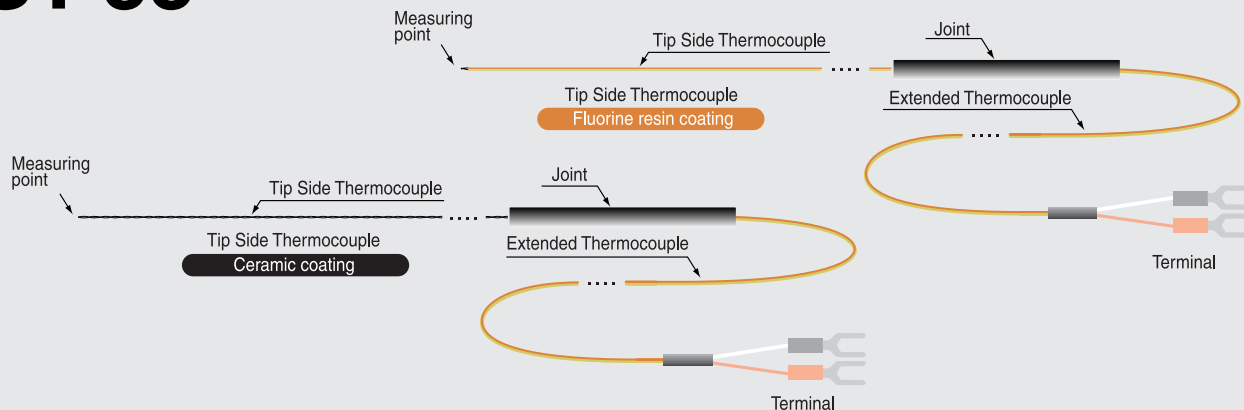
### Fast response with fine thermocouple

### Measuring point on the tip



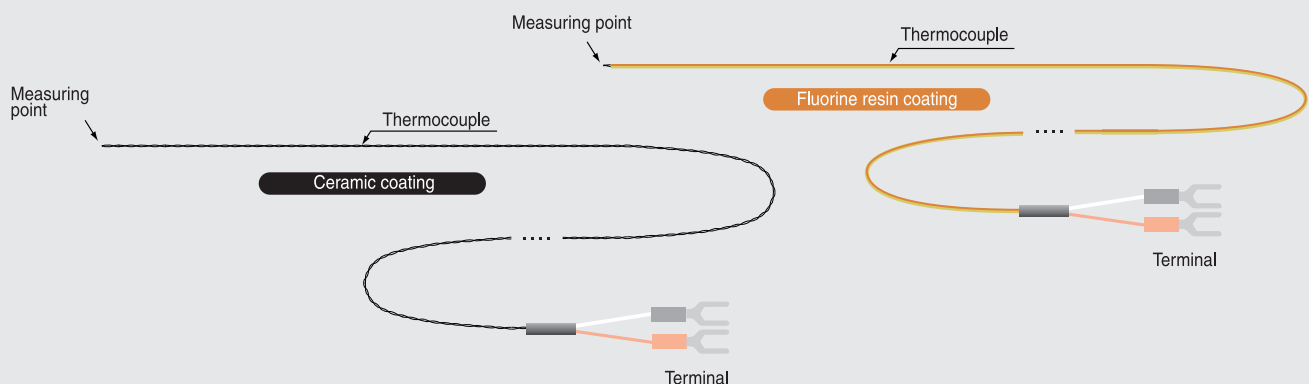
## ST-55

ST-55 has a joint which enables a longer length

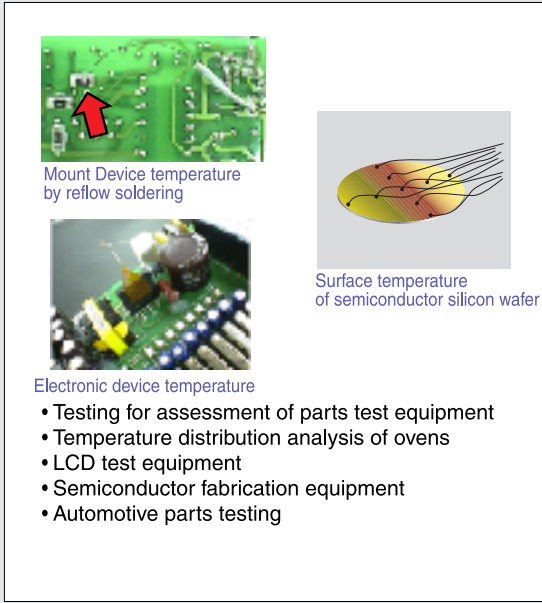


## ST-56

ST-56 is a seamless thermocouple



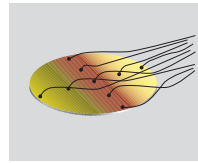
# Application



Mount Device temperature by reflow soldering

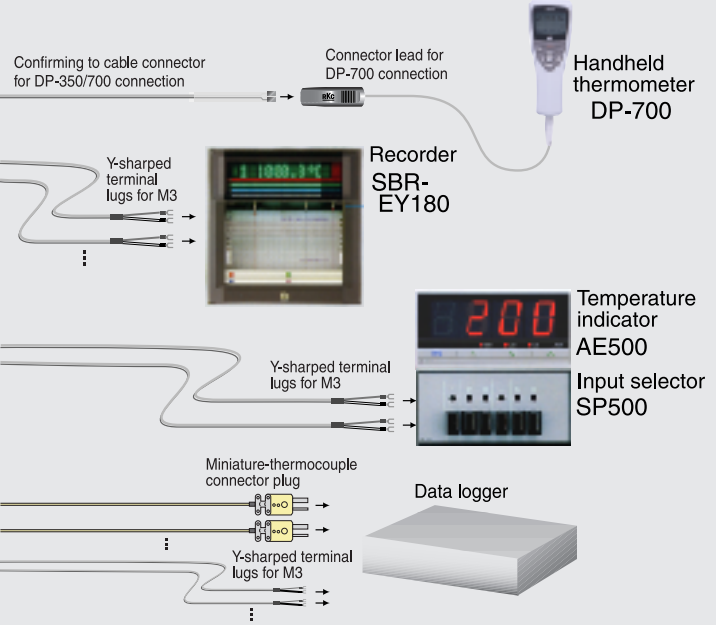


Electronic device temperature



Surface temperature of semiconductor silicon wafer

- Testing for assessment of parts test equipment
- Temperature distribution analysis of ovens
- LCD test equipment
- Semiconductor fabrication equipment
- Automotive parts testing



Handheld thermometer DP-700

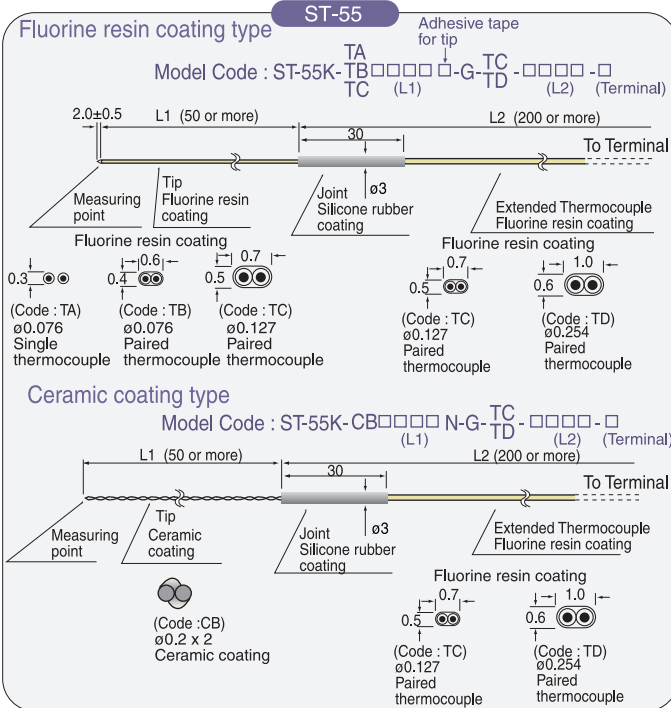
Recorder SBR-EY180

Temperature indicator AE500  
Input selector SP500

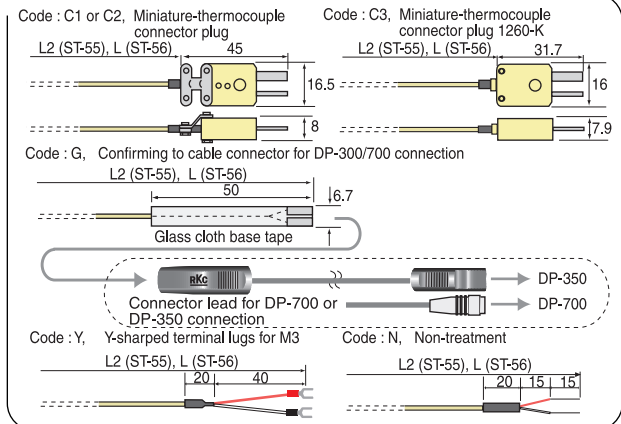
Data logger

## External Dimensions

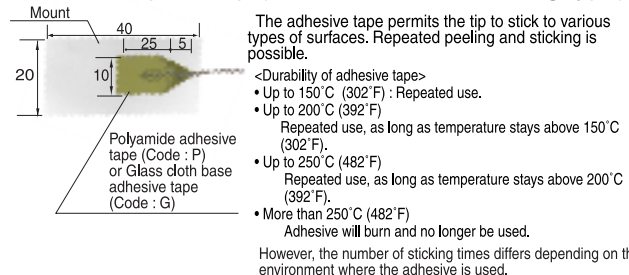
### Measuring point, Tip (Unit : mm)



### Terminal (Unit : mm)



### Adhesive tape for tip (For fluorine resin coating type)



- Remove oil, stain, or dust from the temperature measured surface. The dirty measured surface may cause a measurement error, and make sticking or bonding of the tip difficult.
- When using the ceramic coating type of thermocouple, stick the tip to the measured surface using adhesive which satisfies the environment of its usage.

## Specifications

<b>Thermocouple</b> Type K (Grounding type) Based on JIS C 1602-1995 <b>Class</b> Equal to JIS class 2 (Only for fluorine resin coating type)	<b>Maximum operating temperature</b> 1) Measuring point Fluorine resin coating : 300°C (Coating section 260°C) Ceramic coating : 500°C 2) Adhesive tape : 300°C 3) ST-55 joint section : 170°C (ST-55) 4) ST-55 extended section : 260°C (ST-55)
<b>Accuracy</b> ±0.5%±1°C • Accuracy when temperature 100°C on metal surface (copper) is measured. (Prior to factory)	<b>Element wire diameter</b> ST-55 1) Measuring point Fluorine resin coating : ø0.076/0.127mm Ceramic coating : ø0.2mm 2) Joint section : ø0.127/0.254mm ST-56 Fluorine resin coating : ø0.076/0.127/0.254mm Ceramic coating : ø0.2/0.32mm
<b>Response time</b> 0.2 to 1 sec (Response of 63.2%) 0.8 to 4 sec (Response of 95.0%) • Accuracy when temperature on metal surface is measured.	

# Model and Suffix Code

## ST-55

Specifications	Contents	Suffix Code				
Model	<b>ST-55</b>	K - □ □ □ □ □ - G - □ □ □ □ □ - □				
Thermocouple	Type K	K				
Shape of Thermocouple (Element wire diameter/Coating)	ø0.076 Fluorine resin coating (Single thermocouple type)	TA				
	ø0.076 Fluorine resin coating (Paired thermocouple type)	TB				
	ø0.127 Fluorine resin coating (Paired thermocouple type)	TC				
	ø0.2 x 2 Ceramic coating	CB				
Thermocouple length *1	Unit : mm (Min.50mm) Specify every 50mm unit		□ □ □ □			
Adhesive tape for tip	Polymide tape * Fluorine resin coating type only			P		
	Glass cloth base tape * Fluorine resin coating type only			G		
	None			N		
Joint specifications	Silicone rubber coating (Max. temperature : 170°C)			G		
Shape of Extended Thermocouple (Element wire diameter/Coating)	ø0.127 Fluorine resin coating (Paired thermocouple type)				TC	
	ø0.254 Fluorine resin coating (Paired thermocouple type)				TD	
Extended thermocouple length *1	Unit : mm (Min.200mm) Specify every 50mm unit				□ □ □ □	
Terminal	Miniature-thermocouple connector plug	CMP01-K (RKC product) Material : Polyamide (Max. temperature : 140°C (284°F))				C1
		CMR01-K (RKC product) Material : PPS resin (Max. temperature : 220°C (428°F))				C2
		1260-K (MARINE product) (Max. temperature : 205°C (401°F))				C3
		Y-sharped terminal lugs for M3 *2				Y
		Confirming to cable connector for DP-350/700 connection				G
		Non-treatment				N

\*1 Please select length so that a total resistance of thermocouple become 100Ω or less.

Thermocouple resistance per 100mm

ø0.076mm : 18Ω	ø0.10mm : 12Ω
ø0.127mm : 8Ω	ø0.20mm : 3Ω
ø0.254mm : 2Ω	

Ex. Thermocouple ø0.076mm type : 100mm (18Ω x 1=18Ω)  
 Extended thermocouple ø0.254mm : 2000mm (2Ωx20=40Ω) } Total 58Ω

\*2 Y-sharped terminal lugs for M3 is not available if extended thermocouple was specified ø0.127 (Code : TC).

## ST-56

Specifications	Contents	Suffix Code				
Model	<b>ST-56</b>	K - □ □ □ □ □ - □				
Thermocouple	Type K	K				
Shape of Thermocouple (Element wire diameter/Coating)	ø0.076 Fluorine resin coating (Single thermocouple type)	TA				
	ø0.076 Fluorine resin coating (Paired thermocouple type)	TB				
	ø0.127 Fluorine resin coating (Paired thermocouple type)	TC				
	ø0.254 Fluorine resin coating (Paired thermocouple type)	TD				
	ø0.2 x 2 Ceramic coating	CB				
	ø0.32 x 2 Ceramic coating	CC				
Thermocouple length *1	Unit : mm (Min.50mm) Specify every 50mm unit		□ □ □ □			
Adhesive tape for tip	Polymide tape * Fluorine resin coating type only			P		
	Glass cloth base tape * Fluorine resin coating type only			G		
	None			N		
Terminal	Miniature-thermocouple connector plug	CMP01-K (RKC product) Material : Polyamide (Max. temperature : 140°C (284°F))				C1
		CMR01-K (RKC product) Material : PPS resin (Max. temperature : 220°C (428°F))				C2
		1260-K (MARINE product) (Max. temperature : 205°C (401°F))				C3
		Y-sharped terminal lugs for M3 *2				Y
		Confirming to cable connector for DP-350/700 connection				G
		Non-treatment				N

\*1 Please select length so that resistance of thermocouple become 100Ω or less.

Thermocouple resistance per 100mm

ø0.076mm : 18Ω	ø0.10mm : 12Ω
ø0.127mm : 8Ω	ø0.20mm : 3Ω
ø0.254mm : 2Ω	ø0.32mm : 1.2Ω

Ex. Thermocouple ø0.076mm type : 500mm (18Ω x 5=90Ω)

\*2 Y-sharped terminal lugs for M3 is not available if thermocouple was specified ø0.076 or ø0.127 (Code : TA/TB).



- 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.
- This product must be used in accordance with the specifications to prevent fire or damage to product and equipment.
- This product is not intended for use in locations subject to flammable, explosive, or corrosive gases, or vapor, chemicals or dust, (including conductive dust)
- 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.
- Do not touch the sensor just after the temperature is measured. If touched, burns or chilblains may result.

# RKC® RKC INSTRUMENT

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