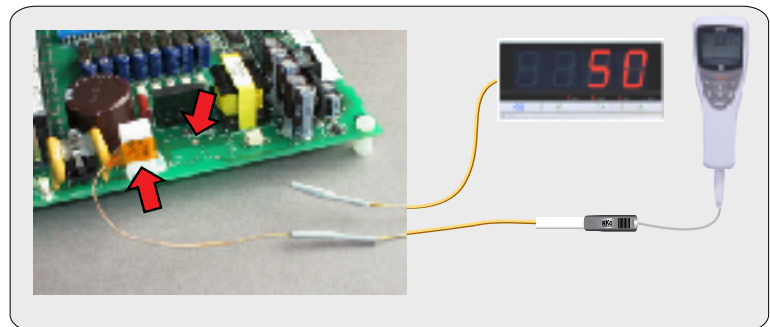
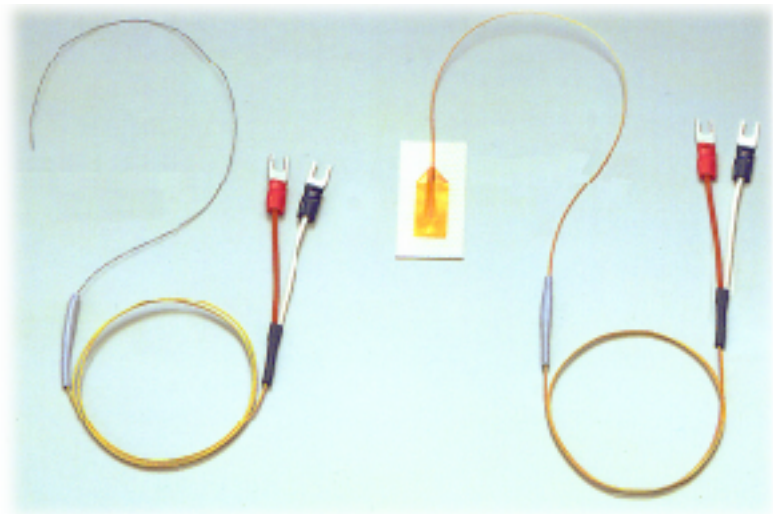


TEMPERATURE SENSOR

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

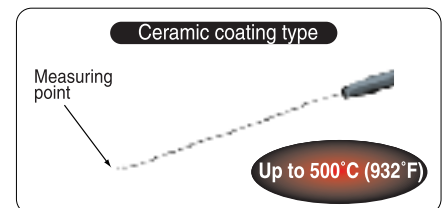
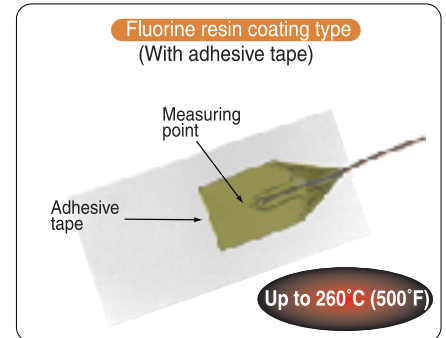
Ceramic coating type sensor is rated to 500°C (932°F) and fluorine resin coating type sensor is rated to 260°C (500°F).

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.

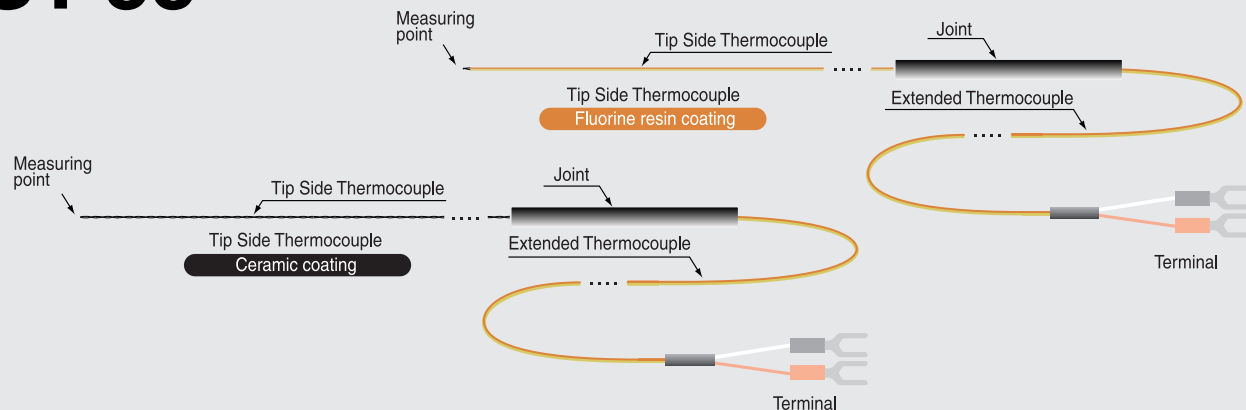
Fast response with fine thermocouple

Measuring point on the tip



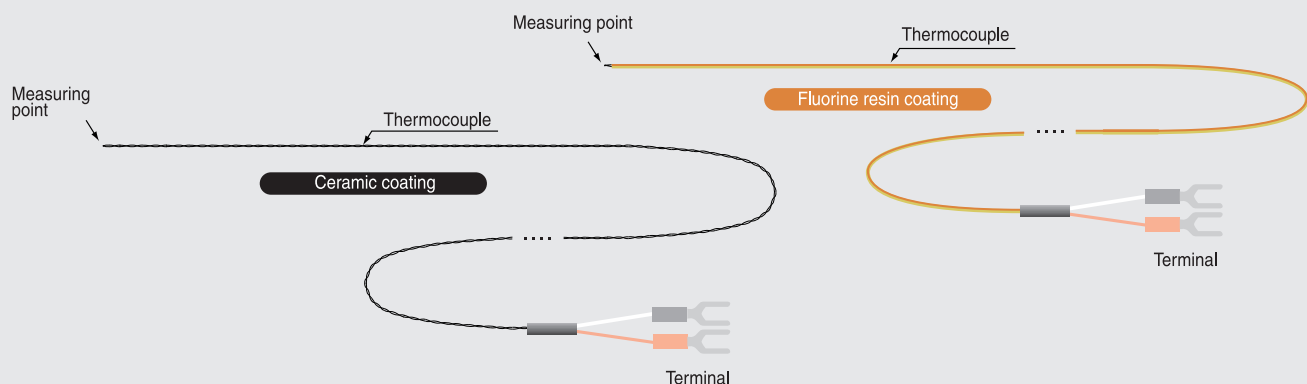
ST-55

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

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

Surface temperature of semiconductor silicon wafer

Confirming to cable connector for DP-350/700 connection

Connector lead for DP-700 connection

Handheld thermometer DP-700

Recorder SBR-EY180

Temperature indicator AE500

Input selector SP500

Data logger

External Dimensions

Measuring point, Tip (Unit : mm)

ST-55

Fluorine resin coating type

Model Code : ST-55K-TB□□□□-G-TC-□□□□-□

Adhesive tape for tip

TA TC (L1) (Terminal) (L2) (Terminal)

2.0±0.5 L1 (50 or more) 30 L2 (200 or more) To Terminal

Measuring point Tip Fluorine resin coating Joint Silicone rubber coating Extended Thermocouple Fluorine resin coating

Fluorine resin coating Fluorine resin coating

(Code : TA) Single thermocouple ø0.076

(Code : TB) Paired thermocouple ø0.076

(Code : TC) Paired thermocouple ø0.127

(Code : TD) Paired thermocouple ø0.254

Ceramic coating type

Model Code : ST-55K-CB□□□□ N-G-TC-□□□□-□

TA TC (L1) (Terminal) (L2) (Terminal)

L1 (50 or more) 30 L2 (200 or more) To Terminal

Measuring point Tip Ceramic coating Joint Silicone rubber coating Extended Thermocouple Fluorine resin coating

Ceramic coating Fluorine resin coating

(Code : CB) Ceramic coating ø0.2 x 2

(Code : TC) Paired thermocouple ø0.127

(Code : TD) Paired thermocouple ø0.254

ST-56

Fluorine resin coating type

Model Code : ST-55K-TB□□□□-□

TA TC (L1) (Terminal)

2.0±0.5 L (200 or more) To Terminal

Measuring point Fluorine resin coating

(Code : TA) Single thermocouple ø0.076

(Code : TB) Paired thermocouple ø0.076

(Code : TC) Paired thermocouple ø0.127

(Code : TD) Paired thermocouple ø0.254

Ceramic coating type

Model Code : ST-55K-CB□□□□ N-□

CB CC (L1) (Terminal)

L (200 or more) To Terminal

Measuring point Ceramic coating

(Code : CB) Ceramic coating ø0.2 x 2

(Code : CC) Ceramic coating ø0.32 x 2

Terminal (Unit : mm)

Code : C1 or C2, Miniature-thermocouple connector plug L2 (ST-55), L (ST-56) 45

Code : C3, Miniature-thermocouple connector plug 1260-K L2 (ST-55), L (ST-56) 31.7

Code : G, Confirming to cable connector for DP-300/700 connection L2 (ST-55), L (ST-56) 50

Code : Y, Y-sharped terminal lugs for M3 L2 (ST-55), L (ST-56) 20 40

Code : N, Non-treatment L2 (ST-55), L (ST-56) 20 15 15

Adhesive tape for tip (For fluorine resin coating type)

Mount 40 25 5 20 10

The adhesive tape permits the tip to stick to various types of surfaces. Repeated peeling and sticking is possible.

<Durability of adhesive tape>

- Up to 150°C (302°F) : Repeated use.
- Up to 200°C (392°F) : Repeated use, as long as temperature stays above 150°C (302°F).
- Up to 250°C (482°F) : Repeated use, as long as temperature stays above 200°C (392°F).
- More than 250°C (482°F) : Adhesive will burn and no longer be used.

However, the number of sticking times differs depending on the environment where the adhesive is used.

Polyamide adhesive tape (Code : P) or Glass cloth base adhesive tape (Code : G)

- 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

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

Model and Suffix Code

ST-55

Specifications	Contents	Suffix Code			
Model	ST-55	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	ST-56	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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