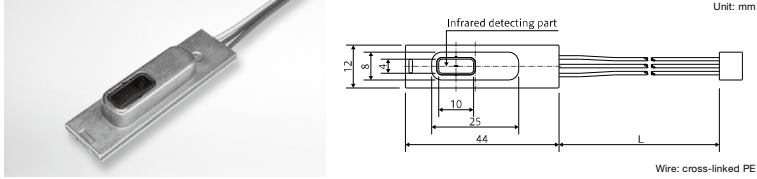


Non-contact

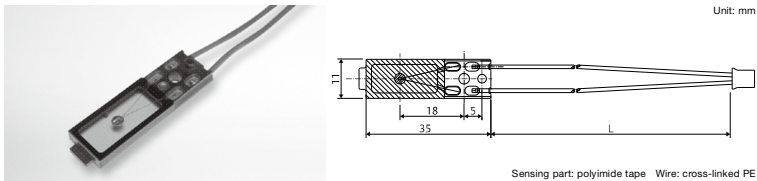
RDS1



Patent No. 5207329, fast response and high accuracy Response is compared to other Shibaura non-contact type sensors

Features	<ul style="list-style-type: none"> • Patent No.5207329, US 9,176,443 • Non-contact temperature detection using infrared rays • Infrared detection type for fuser rollers • Fast response and high accuracy with two compact thermistor elements arranged symmetrically
Applications	Fuser rollers for copying machines, printers and multi-function printers
Operating temperature	-10 to +150°C (on a compensation thermistor element, except connector) Sensing part: -10 to +450°C (based on detected temperature of an object) The maximum operating temperature (150°C) shall not be exceeded.
Thermal time constant	$\tau = 0.6 \pm 0.2$ sec. (at 5mm from $\phi 40$ black roller)
Dissipation constant	$\delta \approx 0.23$ mW/°C
Withstand voltage	500VAC for 1 sec.
Insulation resistance	Min. 100M Ω at 500VDC
Resistance	R25 = 220k Ω
B constant	B25/50 = 3750K

NIP1

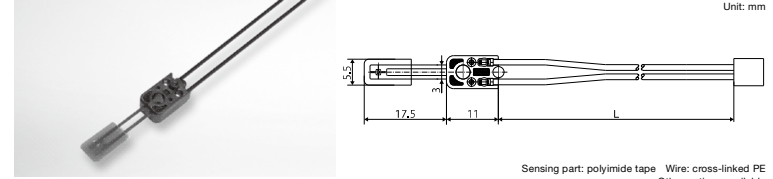


Has a micro-miniature glass-encapsulated thermistor element

Features	<ul style="list-style-type: none"> • Non-contact type surface temperature detection, with a micro-miniature glass-encapsulated thermistor element, for fuser rollers • Lower cost than infrared detection type • Low cost alternative to a contact type using the same circuit
Applications	Fuser rollers for copying machines, printers and multi-function printers
Operating temperature	-10 to +200°C (at the sensing part) <small>Please consult us when higher temperatures are required.</small>
Thermal time constant	$\tau \approx 3.5$ sec. (at 1mm from $\phi 25$ roller)
Dissipation constant	$\delta \approx 0.45$ mW/°C
Resistance	R150 = 13.80k Ω
B constant	B100/200 = 4875K

Soft contact

TSP1



Light touch solution with low cost and high durability Cost is compared to other Shibaura soft contact type sensors

Features	<ul style="list-style-type: none"> • A light touch (approx. 1.2g at a push-in depth of 1mm) sensing solution for fuser rollers • Basic and standard contact type available at low cost • Soft contact reduces damage on rollers
Applications	Fuser rollers for copying machines, printers and multi-function printers
Operating temperature	-20 to +200°C (at the sensing part) <small>Please consult us when higher temperatures are required.</small>
Thermal time constant	$\tau \leq 2$ sec. (push-in depth of 1mm on $\phi 25$ roller)
Dissipation constant	$\delta \approx 0.4$ mW/°C
Withstand voltage	1000VAC for 1 min.
Insulation resistance	Min. 100M Ω at 500VDC
Resistance	R200 = 1k Ω
B constant	B100/200 = 4537K