This announcement is based on product catalogue information previously shown before its discontinuation

Product information of the existing product may be different from the previous version



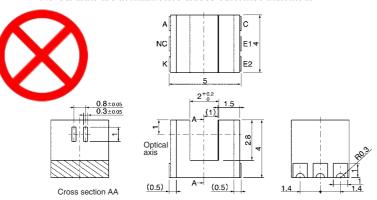
Photomicrosensor (Transmissive) **FF_CY1121**

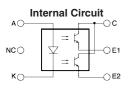


Be sure to read Precautions on page 25.

■ Dimensions

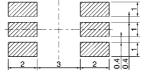
Note: All units are in millimeters unless otherwise indicated.





Terminal No.	Name
Α	Anode
NC	Not connected.
K	Cathode
С	Collector
E1	Emitter 1
E2	Emitter 2

Recommended Soldering Pattern



Unless otherwise specified, the tolerances are ±0.15 mm.

■ Features

- Ultra-compact with a 5-mm-wide sensor and a 2-mm-wide slot.
- PCB surface mounting type.
- High resolution with a 0.3-mm-wide aperture.
- Dual-channel output.

■ Absolute Maximum Ratings (Ta = 25°C)

	Item	Symbol	Rated value
Emitter	Forward current	l _F	25 mA (see note 1)
	Pulse forward cur- rent	I _{FP}	100 mA (see note 2)
	Reverse voltage	V_R	5 V
Detector	Collector–Emitter voltage	V _{CEO}	20 V
	Emitter–Collector voltage	V _{ECO}	5 V
	Collector current	I _C	20 mA
	Collector dissipa- tion	P _C	75 mW (see note 1)
Ambient temperature	Operating	Topr	–30°C to 85°C
	Storage	Tstg	–40°C to 90°C
	Reflow soldering	Tsol	255°C (see note 3)
	Manual soldering	Tsol	350°C (see note 3)

- Note: 1. Refer to the temperature rating chart if the ambient temperature exceeds 25° C.
 - 2. Duty: 1/100; Pulse width: 0.1 ms
 - 3. Complete soldering within 10 seconds for reflow soldering and within 3 seconds for manual soldering.

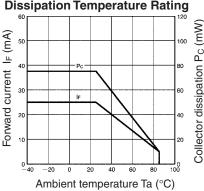
■ Electrical and Optical Characteristics (Ta = 25°C)

	Item	Symbol	Value	Condition
Emitter	Forward voltage	V_{F}	1.1 V typ., 1.3 V max.	I _F = 5 mA
	Reverse current	I _R	10 μA max.	V _R = 5 V
	Peak emission wavelength	λ_{P}	940 nm typ.	I _F = 20 mA
Detector	Light current	I _{L1} /I _{L2}	50 μA min., 150 μA typ., 500 μA max.	$I_F = 5 \text{ mA}, V_{CE} = 5 \text{ V}$
	Dark current	I _D	100 nA max.	V _{CE} = 10 V, 0 ℓx
	Leakage current	I _{LEAK}		
	Collector–Emitter saturated voltage	V _{CE} (sat)	0.1 V typ., 0.4 V max.	$I_F = 20 \text{ mA}, I_L = 50 \mu\text{A}$
	Peak spectral sensitivity wavelength	λ_{P}	900 nm typ.	
Rising time	-	tr	10 μs typ.	V_{CC} = 5 V, R_L = 1 kΩ, I_L = 100 μA
Falling time		tf	10 μs typ.	V_{CC} = 5 V, R_L = 1 k Ω , I_L = 100 μA

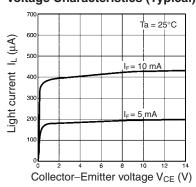
OMRON

■ Engineering Data

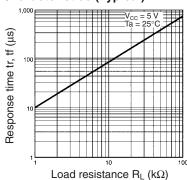




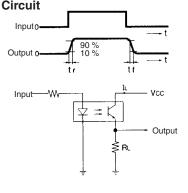
Light Current vs. Collector-Emitter Voltage Characteristics (Typical)



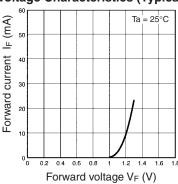
Response Time vs. Load Resistance **Characteristics (Typical)**



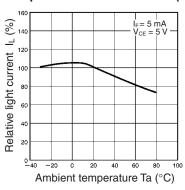
Response Time Measurement



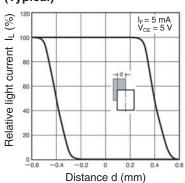
Forward Current vs. Forward Voltage Characteristics (Typical)



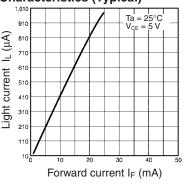
Relative Light Current vs. Ambient Temperature Characteristics (Typical) perature Characteristics (Typical)



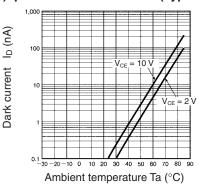
Sensing Position Characteristics (Typical)



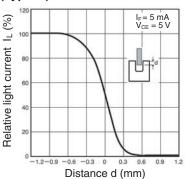
Light Current vs. Forward Current Characteristics (Typical)



Dark Current vs. Ambient Tem-



Sensing Position Characteristics (Typical)



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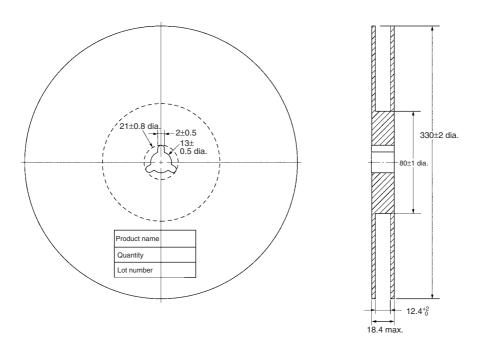
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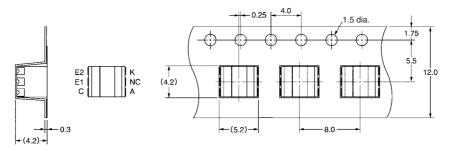
Unit: mm (inch)

■ Tape and Reel

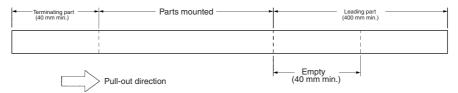
Reel



Tape



Tape configuration



Tape quantity

2,000 pcs./reel

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Precautions

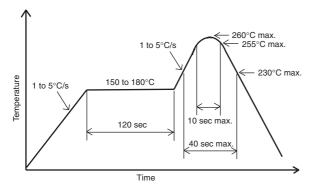
■ Soldering Information

Reflow soldering

• The following soldering paste is recommended:

Melting temperature: 216 to 220°C Composition: Sn 3.5 Ag 0.75 Cu

- The recommended thickness of the metal mask for screen printing is between 0.2 and 0.25 mm.
- Set the reflow oven so that the temperature profile shown in the following chart is obtained for the upper surface of the product being soldered.



Manual soldering

- Use "Sn 60" (60% tin and 40% lead) or solder with silver content.
- Use a soldering iron of less than 25 W, and keep the temperature of the iron tip at 300°C or below.
- Solder each point for a maximum of three seconds.
- After soldering, allow the product to return to room temperature before handling it.

Storage

To protect the product from the effects of humidity until the package is opened, dry-box storage is recommended. If this is not possible, store the product under the following conditions:

Temperature: 10 to 30°C Humidity: 60% max.

The product is packed in a humidity-proof envelope. Reflow soldering must be done within 48 hours after opening the envelope, during which time the product must be stored under 30°C at 80% maximum humidity.

If it is necessary to store the product after opening the envelope, use dry-box storage or reseal the envelope.

Baking

If a product has remained packed in a humidity-proof envelope for six months or more, or if more than 48 hours have lapsed since the envelope was opened, bake the product under the following conditions before use:

Reel: 60°C for 24 hours or more Bulk: 80°C for 4 hours or more