

# EE-SX4009-P10

## Slot / Screw mounting / Connector Type (Slot width: 5 mm)

- Screw-mounting
- High resolution with a 0.5-mm-wide aperture
- Directly connectable to C-MOS
- Connects to US Molex connectors



**⚠** Be sure to read *Safety Precautions* on page 2.

RoHS Compliant

## Model Number Structure

**EE-S X 4 009 - P - 10**

(1) (2) (3) (4) (5) (6)

- |                         |                     |                                  |
|-------------------------|---------------------|----------------------------------|
| (1)<br>Photomicrosensor | (2)<br>Transmissive | (3)<br>Photo IC output, Light-ON |
| (4)<br>Serial number    | (4)<br>PCB mounting | (6)<br>Serial number             |

## Ordering Information

### Photomicrosensor

Appearance	Sensing method	Connecting method	Sensing distance	Aperture size (H × W) (mm)	Output type	Model	Minimum packing unit (Unit: pcs)
	Transmissive (slot type)	Connector	5 mm (slot width)	Both emitting side and detecting side 2 × 0.5	Photo IC	EE-SX4009-P10 (Light-ON)	1

Note: Order in multiples of minimum packing unit.

## Ratings, Characteristics and Exterior Specifications

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value	Unit
Power supply voltage	V <sub>CC</sub>	10	V
Output voltage	V <sub>OUT</sub>	28	V
Output current	I <sub>OUT</sub>	16	mA
Permissible output dissipation	P <sub>OUT</sub>	250 *	mW
Operating temperature	T <sub>opr</sub>	-25 to +75	°C
Storage temperature	T <sub>stg</sub>	-40 to +85	°C
Soldering temperature	T <sub>sol</sub>	---	°C

\* Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

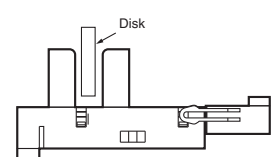
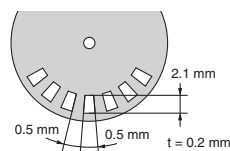
### Exterior Specifications

Connecting method	Weight (g)	Material
		Case
Connector	3.4	Polycarbonate

### Electrical and Optical Characteristics (Ta = 25°C, V<sub>CC</sub> = 5 V ± 10%)

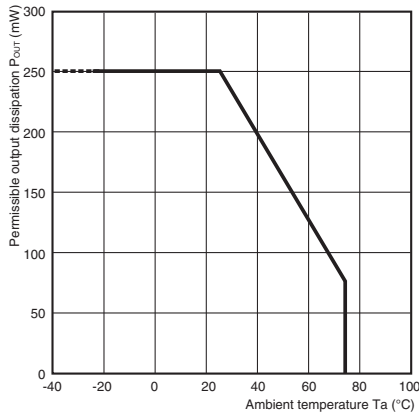
Item	Symbol	Value			Unit	Condition
		MIN.	TYP.	MAX.		
Current consumption	I <sub>CC</sub>	---	---	30	mA	With and without incident
Low-level output voltage	V <sub>OL</sub>	---	---	0.3	V	I <sub>OUT</sub> = 16 mA, with incident
High-level output voltage	V <sub>OH</sub>	(V <sub>CC</sub> × 0.9)	---	---	V	V <sub>OUT</sub> = V <sub>CC</sub> , without incident, R <sub>L</sub> = 47 kΩ
Response frequency	f	3	---	---	kHz	V <sub>OUT</sub> = V <sub>CC</sub> *, R <sub>L</sub> = 47 kΩ

\* The value of the response frequency is measured by rotating the disk as shown below.

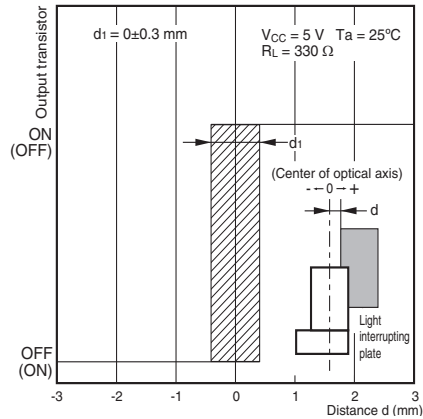


## Engineering Data (Reference value)

**Fig 1. Output Allowable Dissipation vs. Ambient Temperature Characteristics**



**Fig 2. Sensing Position Characteristics (Typical)**



## Safety Precautions

To ensure safe operation, be sure to read and follow the Instruction Manual provided with the Sensor.

### ⚠ CAUTION

This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.



### Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings. Dispose of this product as industrial waste.

### Precautions for Safe Use

**Do not use the product with a voltage or current that exceeds the rated range.**

Applying a voltage or current that is higher than the rated range may result in explosion or fire.

**Do not miswire such as the polarity of the power supply voltage.**

Otherwise the product may be damaged or it may burn.

**Do not short-circuit the load.**

Otherwise explosion or burning may occur.

**This product does not resist water.**

# Dimensions and Internal Circuit

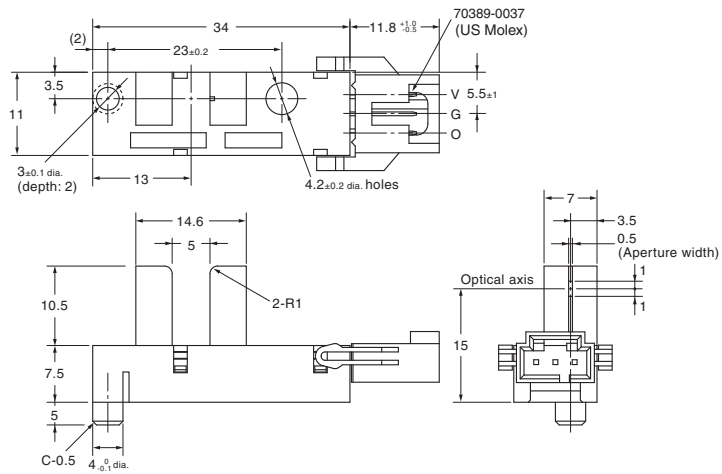
## Photomicrosensor

EE-SX4009-P10

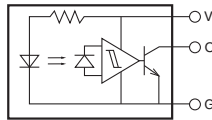


Aperture size (H × W) (mm)

Emitter	Detector
2 × 0.5	2 × 0.5



Internal circuit



Unless otherwise specified, the tolerances are as shown below.

Terminal No.	Name
V	Power supply (V <sub>CC</sub> )
O	Output voltage (OUT)
G	Ground (GND)

Dimensions	Tolerance
4 mm max.	±0.2
4 < mm ≤ 16	±0.3
16 < mm ≤ 63	±0.5

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