

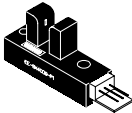
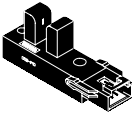
## EE-SX4009-P1/P10

### Photo IC Output Photomicrosensors with AMP or Molex Connectors

- Photo IC receiver assures a high output of 16mA at 28 VDC and a high response speed of 3 kHz
- Directly compatible with TTL and CMOS
- Includes Schmitt trigger circuit
- Internal resistor included to protect the LED circuit
- Compatible with AMP (EE-SX4009-P1) or Molex (EE-SX4009-P10) connectors
- Easy screw-mount configuration



### Ordering Information

Appearance	Sensing method	Slot width	Slot depth	Output configuration	Weight	Applicable mating connector	Part number
	Transmissive	5 mm	10.5 mm	Photo IC Light-ON	3.1 g	Omron EE-1005 AMP 171822-3 AMP 171880-3 AMP 172142-3	<b>EE-SX4009-P1</b>
					3.5 g	U.S. Molex 50-57-9403 15-47-4033 14-56-2036 (AWG 28) 14-56-2034 (AWG 26) 14-56-2032 (AWG 24) 14-56-7037 (AWG 22)	<b>EE-SX4009-P10</b>

### Specifications

#### ■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Item	Symbol	Rated value	
Supply voltage	V <sub>CC</sub>	10 VDC	
Output voltage	V <sub>OUT</sub>	28 V	
Output current	I <sub>OUT</sub>	16 mA	
Output power dissipation	P <sub>OUT</sub>	250 mW	
Ambient temperature	Operating	Topr	-20°C to +75°C (-4°F to 167°F)
	Storage	Tstg	-40°C to +85°C (-40°F to 185°F)

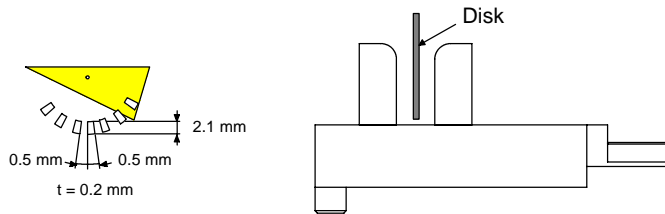
**ELECTRICAL CHARACTERISTICS  $T_A = 25^\circ\text{C}$ ,  $V_{CC} = 5\text{ V} \pm 10\%$**

Item	Symbol	Value	Condition
Consumption current	$I_{CC}$	30 mA max.	With or without incident light
Low level output voltage	$V_{OL}$	0.3 V max.	$I_{OUT} = 16\text{ mA}$ without object
High level output voltage	$V_{OH}$	$(V_{CC} \times 0.9)\text{ V min.}$	$V_{OUT} = V_{CC}$ , $R_L = 47\text{ k}\Omega$ with object
Response frequency	$f$	3 kHz. min.	$V_{OUT} = V_{CC}$ , $R_L = 47\text{ k}\Omega$

**RECOMMENDED OPERATING CONDITION (WITHIN THE RATED TEMPERATURE RANGE)**

Item	Symbol	Recommended Value	Remarks
Supply voltage	$V_{CC}$	$5\text{ V} \pm 10\%$	Refer to Engineering Data (Temperature Characteristics) and keep the output voltage and current as low as possible in the recommended range.
Output voltage	$V_{OUT}$	4.5 to 28 V	
Output current	$I_{OUT}$	16 mA max.	

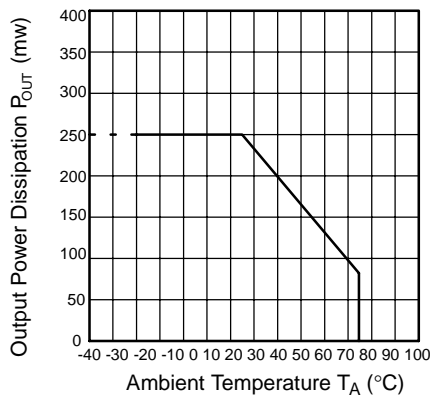
Note: The value of the response frequency is measured by rotating the disk as shown below.



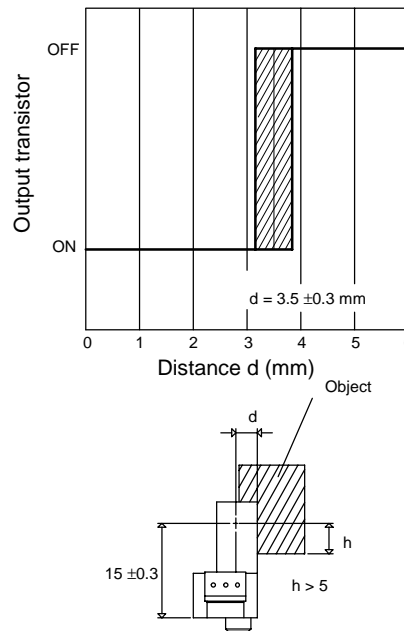
**Engineering Data**

Note: The operating conditions of the photomicrosensor must be within the absolute maximum rating ranges.

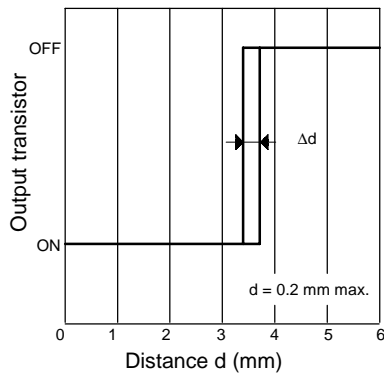
**TEMPERATURE CHARACTERISTICS**



**SENSING POSITION CHARACTERISTICS**

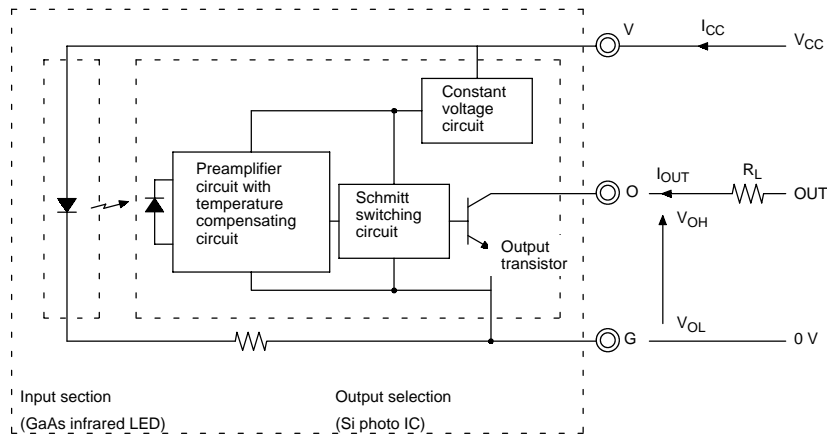


**REPEATED SENSING POSITION CHARACTERISTICS**

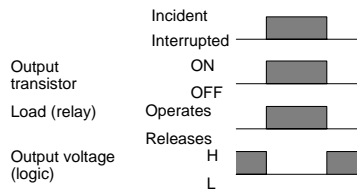


**Operation**

**INTERNAL/EXTERNAL CIRCUIT DIAGRAM**



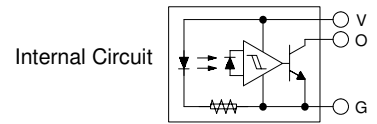
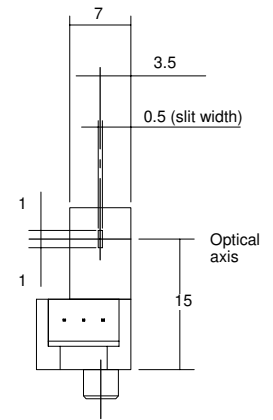
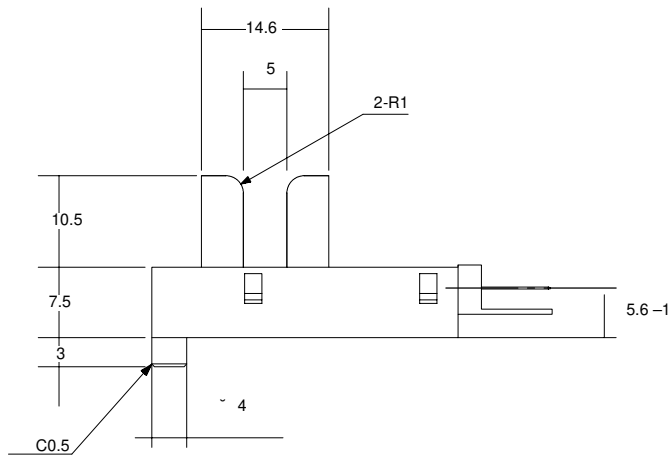
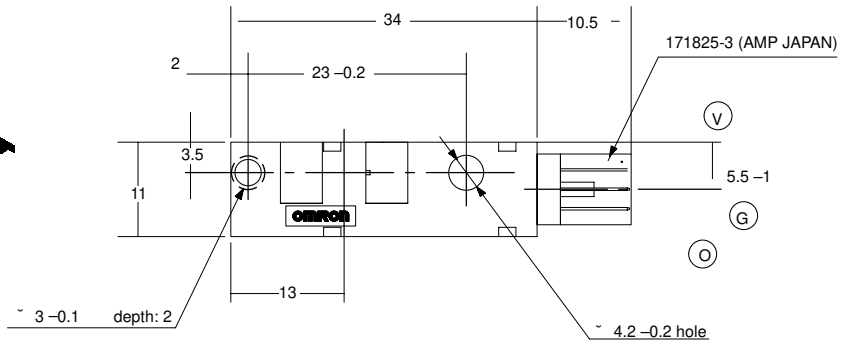
**TIMING CHART**



# Dimensions

Unit: mm (inch)

EE-SX4009-P1



Terminal No.	Name