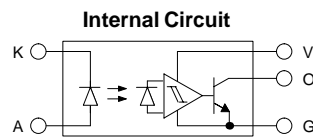
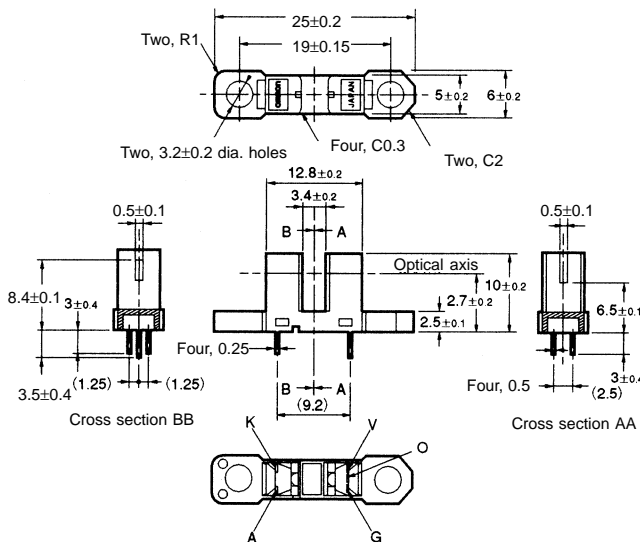


Transmissive

- Incorporates a photo-IC chip with a built-in detector element and amplifier.
- A wide supply voltage range: 4.5 to 16 VDC
- Directly connects to C-MOS and TTL.
- High resolution with a 0.5-mm-wide sensing aperture.
- Dark ON model (EE-SX3088)
- Light ON model (EE-SX4088)
- OMRON's XK8-series Connectors can be connected to the lead wires without a PCB. Contact OMRON for information on obtaining XK8-series Connectors.



Dimensions



Terminal No.	Name
A	Anode
K	Cathode
V	Supply voltage (Vcc)
O	Output (OUT)
G	Ground (GND)

Unless otherwise specified, the tolerances are as shown below.

Dimensions	Tolerance
3 mm max.	±0.3
3 < mm ≤ 6	±0.375
6 < mm ≤ 10	±0.45
10 < mm ≤ 18	±0.55
18 < mm ≤ 30	±0.65

Specifications

Absolute Maximum Ratings (Ta = 25°C)

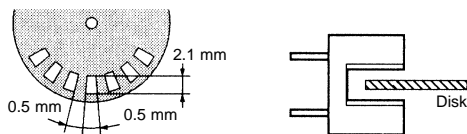
Item	Symbol	Rated value
Emitter	Forward current	I _F
	Reverse voltage	V _R
Detector	Supply voltage	V _{CC}
	Output voltage	V _{OUT}
	Output current	I _{OUT}
	Permissible output dissipation	P _{OUT}
Ambient temperature	Operating	T _{opr}
	Storage	T _{stg}
	Soldering	T _{sol}

Note: Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

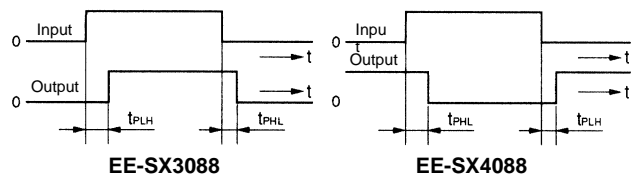
■ Electrical and Optical Characteristics (Ta = 25°C)

Item	Symbol	Value	Condition
Emitter	Forward voltage	V_F	1.2 V typ., 1.5 V max.
	Reverse current	I_R	0.01 μ A typ., 10 μ A max.
	Peak emission wavelength	λ_P	---
Detector	Low-level output voltage	V_{OL}	0.12 V typ., 0.4 V max.
	High-level output voltage	V_{OH}	15 V min.
	Current consumption	I_{CC}	3.2 mA typ., 10 mA max.
	Peak spectral sensitivity wavelength	λ_P	---
LED current when output is OFF	I_{FT}	2 mA typ., 5 mA max.	$V_{CC} = 4.5$ to 16 V
LED current when output is ON			
Hysteresis	ΔH	15% typ.	$V_{CC} = 4.5$ to 16 V (see note 1)
Response frequency	f	3,000 P.P.S min.	$V_{CC} = 4.5$ to 16 V, $I_F = 15$ mA, $I_{OL} = 16$ mA (see note 2)
Response delay time	t_{PLH} (t_{PHL})	3 μ s typ.	$V_{CC} = 4.5$ to 16 V, $I_F = 15$ mA, $I_{OL} = 16$ mA (see note 3)
Response delay time	t_{PHL} (t_{PLH})	20 μ s typ.	$V_{CC} = 4.5$ to 16 V, $I_F = 15$ mA, $I_{OL} = 16$ mA (see note 3)

- Note:**
- Hysteresis denotes the difference in forward LED current value, expressed in percentage, calculated from the respective forward LED currents when the photo IC is turned from ON to OFF and when the photo IC is turned from OFF to ON.
 - The value of the response frequency is measured by rotating the disk as shown below. (P.P.S = pulse/s)



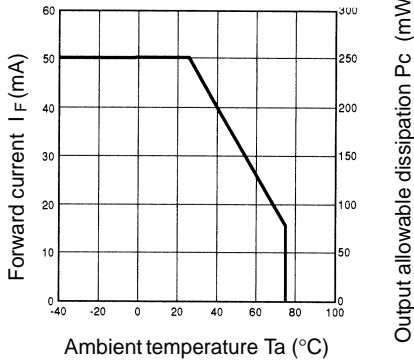
- The following illustrations show the definition of response delay time. The value in the parentheses applies to the EE-SX4088.



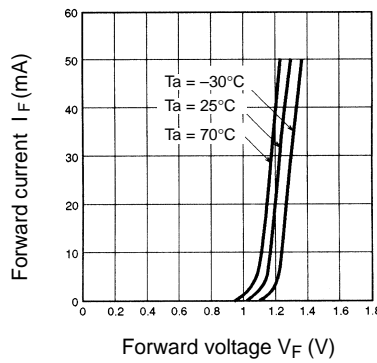
Engineering Data

Note: The values in the parentheses apply to the EE-SX4088.

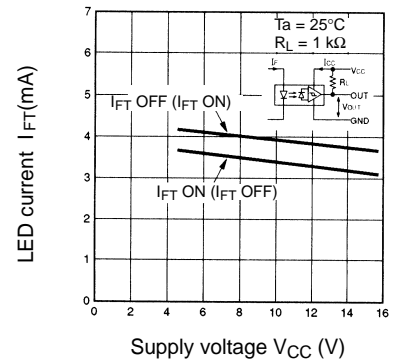
Forward Current vs. Collector Dissipation Temperature Rating



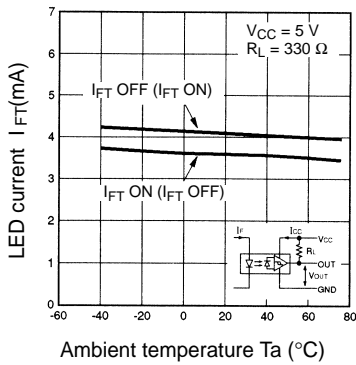
Forward Current vs. Forward Voltage Characteristics (Typical)



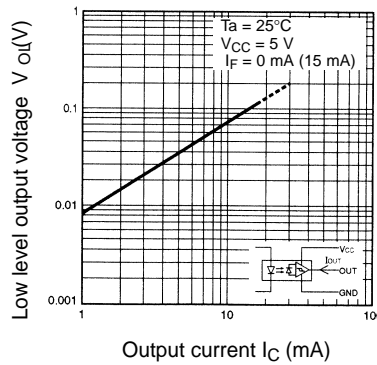
LED Current vs. Supply Voltage (Typical)



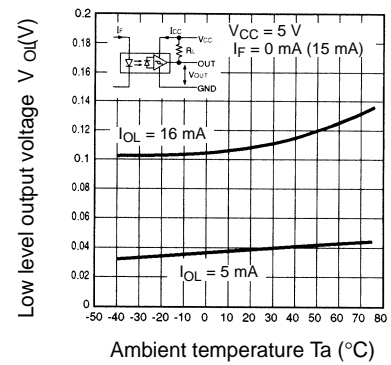
LED Current vs. Ambient Temperature Characteristics (Typical)



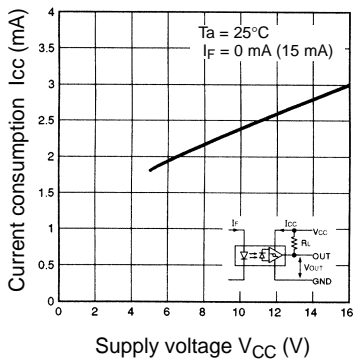
Low-level Output Voltage vs. Output Current (Typical)



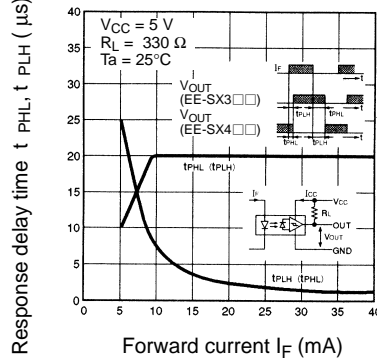
Low-level Output Voltage vs. Ambient Temperature Characteristics (Typical)



Current Consumption vs. Supply Voltage (Typical)



Response Delay Time vs. Forward Current (Typical)



Repeat Sensing Position Characteristics (Typical)

