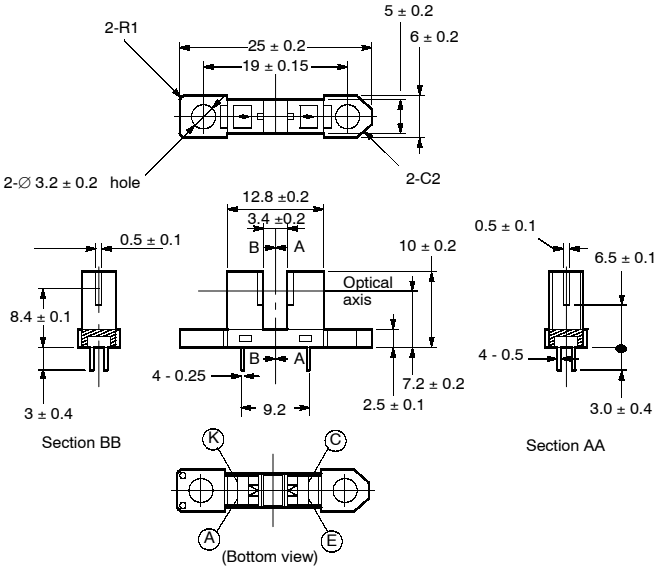
OMRON

EE-SX2088

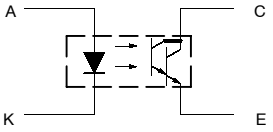
Photomicrosensor (Transmissive)

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Internal Circuit



Terminal No.	Name
A	Anode
K	Cathode
C	Collector
E	Emitter

Unless otherwise specified, the tolerances are ±0.2 mm.

■ Features

- 0.5-mA output min. with only 1-mA forward LED current.
- Mounting tabs to secure EE-SX2088 to PCB.
- Best suited to drive CMOS IC.

■ Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rated value
Emitter	**Forward current**	I_F	50 mA (see note 1)
	Pulse forward current	I_{FP}	1 A (see note 2)
	Reverse voltage	V_R	4 V
Detector	**Collector-Emitter voltage**	V_{CEO}	35 V
	Emitter-Collector voltage	V_{ECO}	---
	Collector current	I_C	20 mA
	Collector dissipation	P_C	100 mW (see note 1)
Ambient temperature	**Operating**	Topr	-25°C to 85°C
	Storage	Tstg	-30°C to 100°C

Note: 1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

2. The pulse width is 10 μs maximum with a frequency of 100 Hz.

3. Complete soldering within 10 seconds.

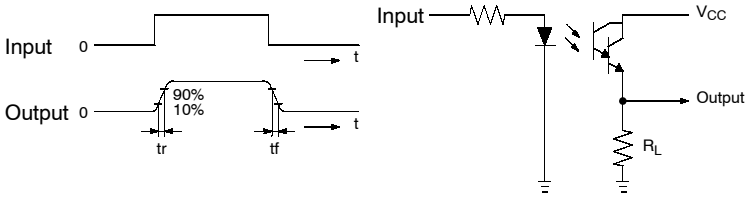
■ Ordering Information

Description	Part number
Photomicrosensor (Transmissive)	**EE-SX2088**

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

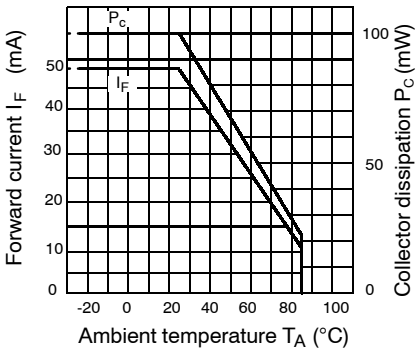
Item		Symbol	Value	Condition
Emitter	Forward voltage	V_F	1.2 V typ.; 1.4 V max.	I_F = 20mA
	Reverse current	I_R	0.01 μA typ.; 10 μA max.	V_R = 4 V
	Peak emission wavelength	$\lambda_{p(L)}$	940 mm typ.	I_F = 20 mA
Detector	Dark current	I_D	2 nA typ.; 1000 nA max.	V_{CE} = 10 V 0 ℓx
	Peak spectral sensitivity wavelength	$\lambda_{p(P)}$	850 nm typ.	V_{CE} = 5 V
Combination	Light current (collector current)	I_L	0.5 to 20 mA	I_F = 1 mA V_{CE} = 2 V
	Collector-emitter saturated voltage	V_{CE} (sat)	0.75 V typ.; 1 V max.	I_F = 2 mA I_L = 0.5 mA
	Rising time*	tr	70 μs typ.	V_{CC} = 2 V I_L = 2 mA R_L = 100 Ω
	Falling time*	tf	70 μs typ.	

*The illustrations on the following page show the rising time, tr, and the falling time, tf.

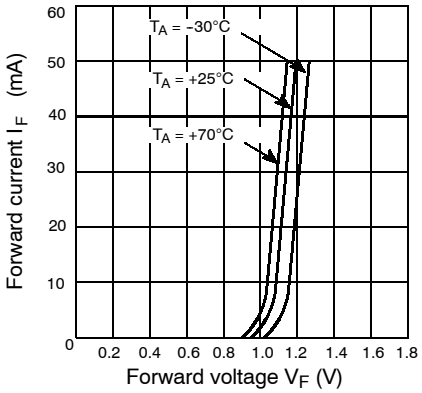


■ Engineering Data

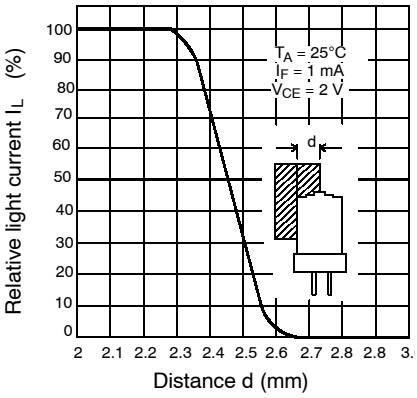
Temperature Characteristics



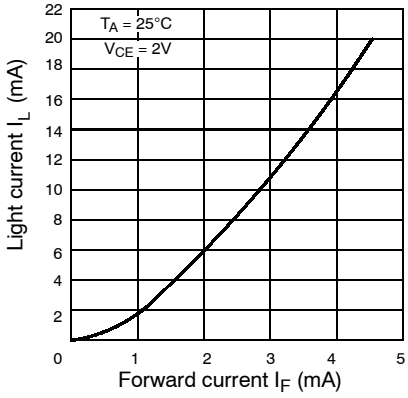
Input Characteristics (Typical)



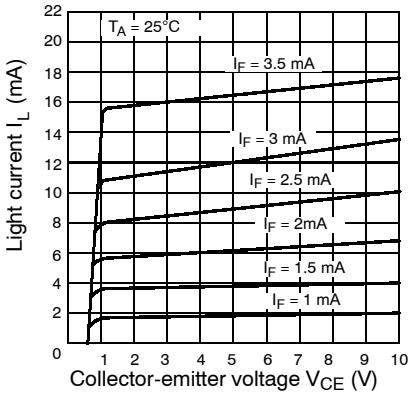
Sensing Position Characteristics (Typical)



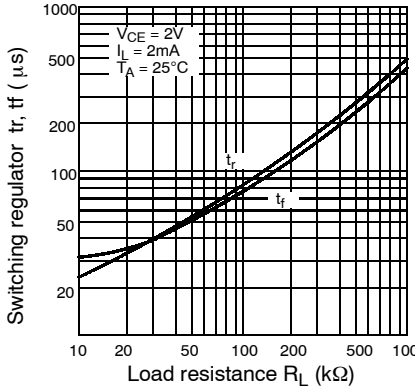
Input/output Characteristics (Typical)



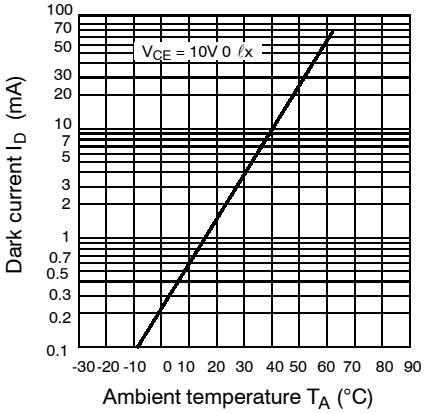
Output Characteristics (Typical)



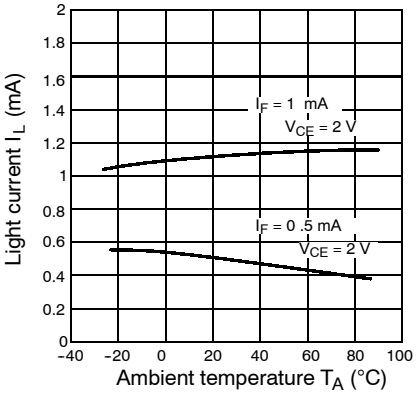
Response Time vs Load Resistance Characteristics (Typical)



Dark Current Temperature Dependency (Typical)



Light Current Temperature Dependency (Typical)



NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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