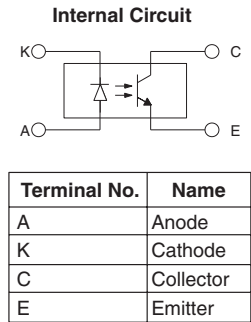
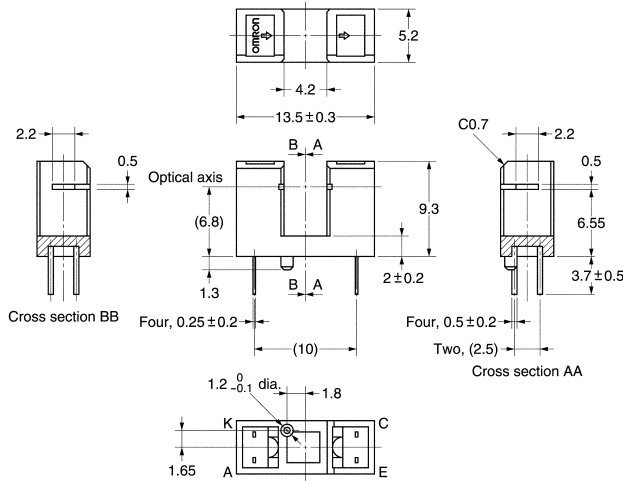


# Photomicrosensor (Transmissive) EE-SX1128

## ■ Dimensions

**Note:** All units are in millimeters unless otherwise indicated.



Unless otherwise specified, the tolerances are as shown below.

Dimensions	Tolerance
0 < x ≤ 4	±0.100
4 < x ≤ 18	±0.200

## ■ Features

- General-purpose model with a 4.2-mm-wide slot.
- PCB mounting type.
- High resolution with a 0.5-mm-wide aperture.
- Horizontal sensing aperture.
- RoHS Compliant.

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

Item	Symbol	Rated value
<b>Emitter</b>	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
<b>Detector</b>	Collector–Emitter voltage	$V_{CEO}$ 30 V
	Emitter–Collector voltage	$V_{ECO}$ ---
	Collector current	$I_C$ 20 mA
	Collector dissipation	$P_C$ 100 mW (see note 1)
<b>Ambient temperature</b>	Operating	$T_{opr}$ -25°C to 85°C
	Storage	$T_{stg}$ -30°C to 100°C
<b>Soldering temperature</b>	$T_{sol}$	260°C (see note 3)

- 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

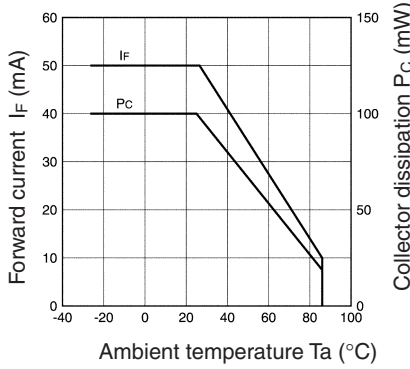
Description	Model
Photomicrosensor (transmissive)	EE-SX1128

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

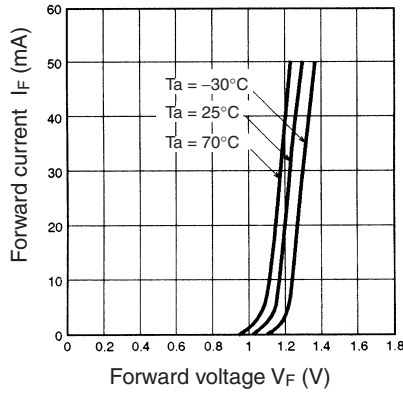
Item	Symbol	Value	Condition
<b>Emitter</b>	Forward voltage	$V_F$ 1.2 V typ., 1.5 V max.	$I_F = 30$ mA
	Reverse current	$I_R$ 0.01 μA typ., 10 μA max.	$V_R = 4$ V
	Peak emission wavelength	$\lambda_P$ 940 nm typ.	$I_F = 20$ mA
<b>Detector</b>	Light current	$I_L$ 0.5 mA min., 10 mA max.	$I_F = 20$ mA, $V_{CE} = 10$ V
	Dark current	$I_D$ 2 nA typ., 200 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.	$I_F = 20$ mA, $I_L = 0.1$ mA
	Peak spectral sensitivity wavelength	$\lambda_P$ 850 nm typ.	$V_{CE} = 10$ V
<b>Rising time</b>	$t_r$	4 μs typ.	$V_{CC} = 5$ V, $R_L = 100$ Ω, $I_L = 5$ mA
<b>Falling time</b>	$t_f$	4 μs typ.	$V_{CC} = 5$ V, $R_L = 100$ Ω, $I_L = 5$ mA

## Engineering Data

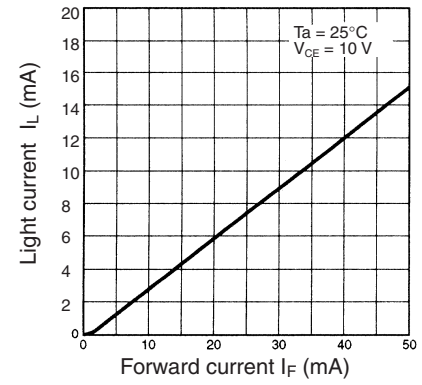
**Forward Current vs. Collector Dissipation Temperature Rating**



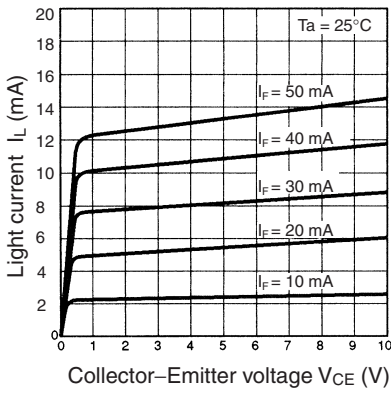
**Forward Current vs. Forward Voltage Characteristics (Typical)**



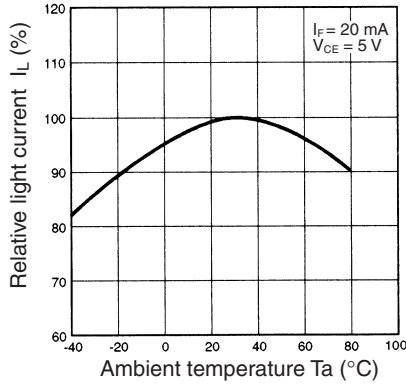
**Light Current vs. Forward Current Characteristics (Typical)**



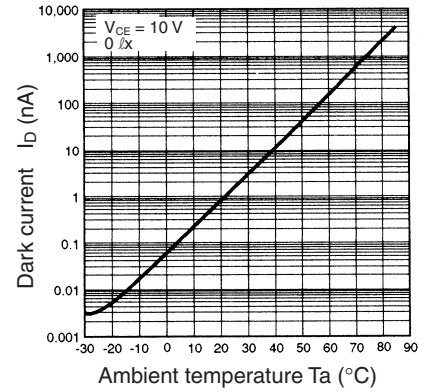
**Light Current vs. Collector-Emitter Voltage Characteristics (Typical)**



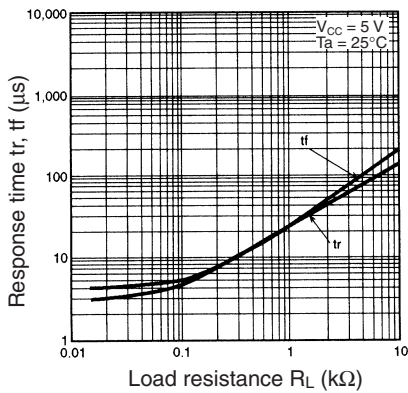
**Relative Light Current vs. Ambient Temperature Characteristics (Typical)**



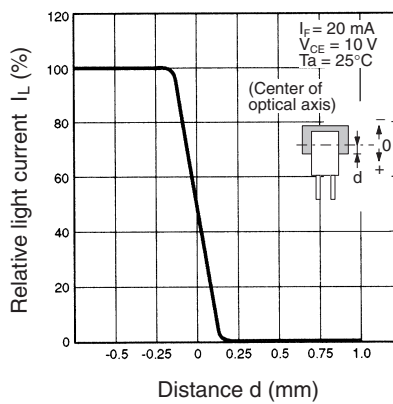
**Dark Current vs. Ambient Temperature Characteristics (Typical)**



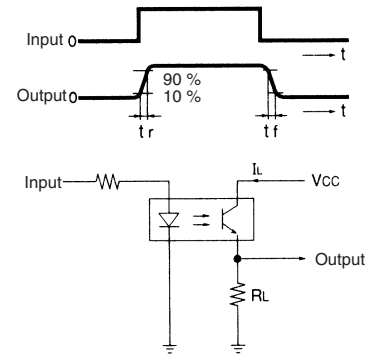
**Response Time vs. Load Resistance Characteristics (Typical)**



**Sensing Position Characteristics (Typical)**



**Response Time Measurement Circuit**



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