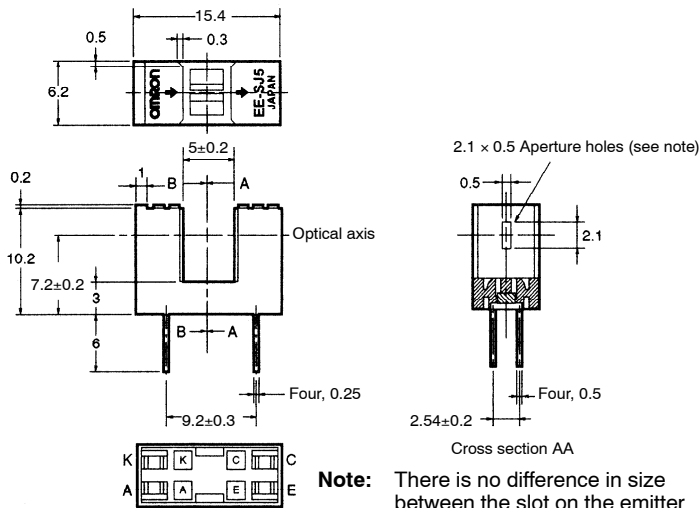
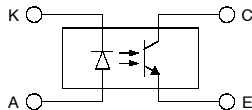


## ■ Dimensions

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



## Internal Circuit



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

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

## ■ Features

- General-purpose model with a 5-mm-wide slot.
- PCB mounting type.
- High resolution with a 0.5-mm-wide aperture.

■ 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	$V_{CEO}$	30 V
	Emitter-Collector voltage	$V_{ECO}$	---
	Collector current	$I_C$	20 mA
	Collector dissipation	$P_C$	100 mW (see note 1)
Ambient temperature	Operating	$T_{opr}$	-25°C to 85°C
	Storage	$T_{stg}$	-30°C to 100°C
Soldering temperature		$T_{sol}$	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

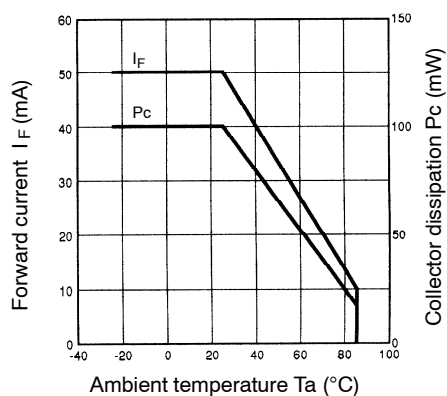
Description	Part number
Photomicrosensor (Transmissive)	EE-SJ5-B

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

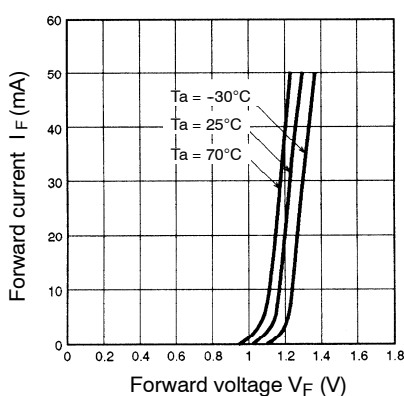
Item		Symbol	Value	Condition
Emitter	Forward voltage	$V_F$	1.2 V typ., 1.5 V max.	$I_F = 30 \text{ mA}$
	Reverse current	$I_R$	0.01 μA typ., 10 μA max.	$V_R = 4 \text{ V}$
	Peak emission wavelength	$\lambda_P$	940 nm typ.	$I_F = 20 \text{ mA}$
Detector	Light current	$I_L$	0.5 mA min., 14 mA max.	$I_F = 20 \text{ mA}$ , $V_{CE} = 10 \text{ V}$
	Dark current	$I_D$	2 nA typ., 200 nA max.	$V_{CE} = 10 \text{ V}$ , 0 lx
	Leakage current	$I_{LEAK}$	---	---
	Collector-Emitter saturated voltage	$V_{CE}(\text{sat})$	0.1 V typ., 0.4 V max.	$I_F = 20 \text{ mA}$ , $I_L = 0.1 \text{ mA}$
	Peak spectral sensitivity wavelength	$\lambda_P$	850 nm typ.	$V_{CE} = 10 \text{ V}$
Rising time		$t_r$	4 μs typ.	$V_{CC} = 5 \text{ V}$ , $R_L = 100 \Omega$ , $I_L = 5 \text{ mA}$
Falling time		$t_f$	4 μs typ.	$V_{CC} = 5 \text{ V}$ , $R_L = 100 \Omega$ , $I_L = 5 \text{ mA}$

## Engineering Data

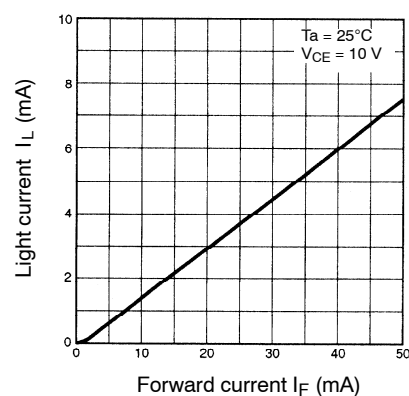
**Forward Current vs. Collector Dissipation Temperature Rating**



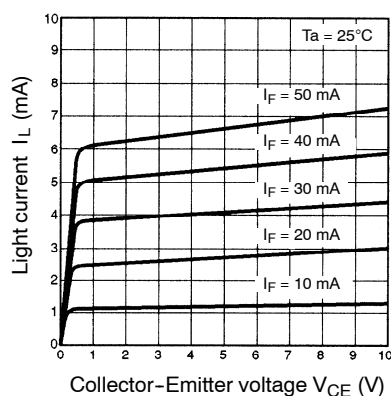
**Forward Current vs. Forward Voltage Characteristics (Typical)**



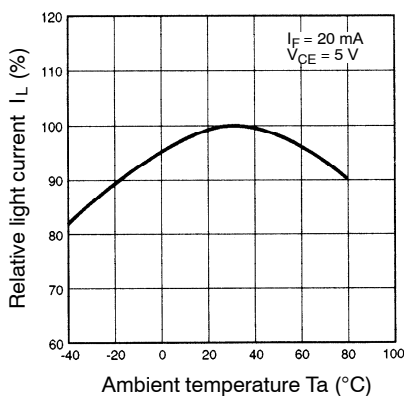
**Light Current vs. Forward Current Characteristics (Typical)**



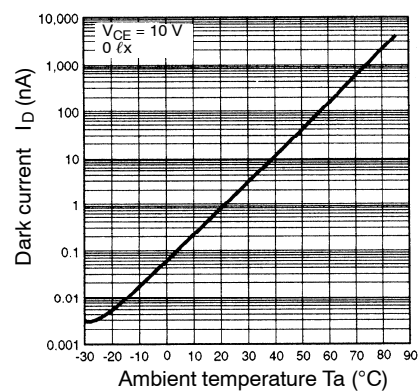
**Light Current vs. Collector-Emitter Voltage Characteristics (Typical)**



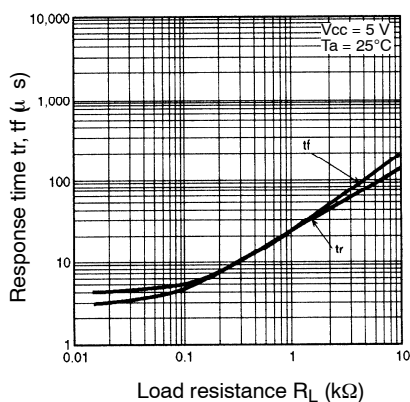
**Relative Light Current vs. Ambient Temperature Characteristics (Typical)**



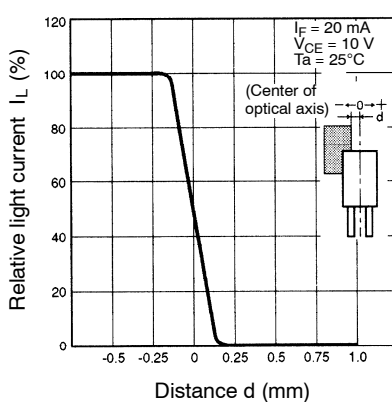
**Dark Current vs. Ambient Temperature Characteristics (Typical)**



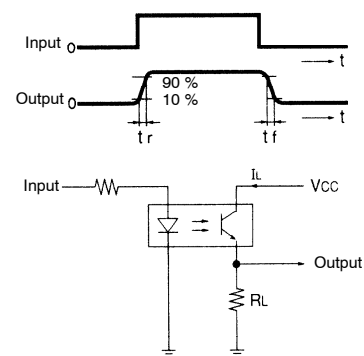
**Response Time vs. Load Resistance Characteristics (Typical)**



**Sensing Position Characteristics (Typical)**



**Response Time Measurement Circuit**



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

---

**OMRON**<sup>®</sup>**OMRON ELECTRONICS LLC**

One East Commerce Drive  
Schaumburg, IL 60173

**847-882-2288****OMRON CANADA, INC.**

885 Milner Avenue  
Toronto, Ontario M1B 5V8

**416-286-6465****OMRON ON-LINE**Global – <http://www.omron.com>USA – <http://www.omron.com/oei>Canada – <http://www.omron.com/oci>