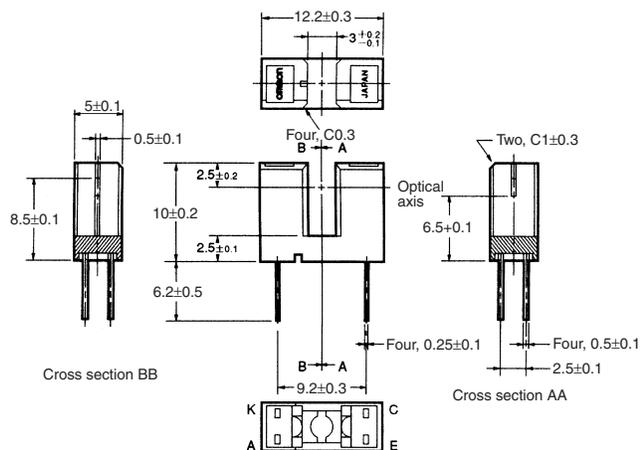


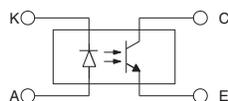
# Photomicrosensor (Transmissive) EE-SX198

## ■ 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

- General-purpose model with a 3-mm-wide slot.
- PCB mounting type.
- High resolution with a 0.5-mm-wide aperture.
- RoHS Compliant.

## ■ 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
	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

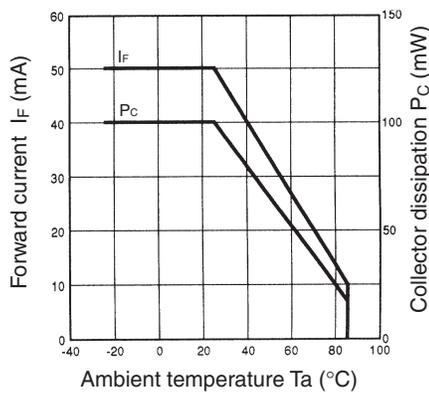
Description	Model
Photomicrosensor (transmissive)	EE-SX198

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

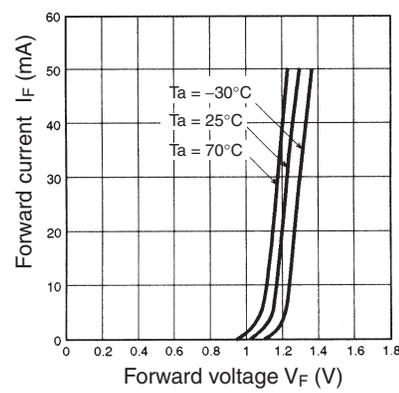
Item	Symbol	Value	Condition
Emitter	Forward voltage	$V_F$ 1.2 V typ., 1.4 V max.	$I_F = 30$ mA
	Reverse current	$I_R$ 0.01 μA typ., 10 μA max.	$V_R = 4$ V
	Peak emission wavelength	$\lambda_P$ 940 nm typ.	$I_F = 20$ mA
Detector	Light current	$I_L$ 0.5 mA min., 14 mA max.	$I_F = 20$ mA, $V_{CE} = 5$ V
	Dark current	$I_D$ 2 nA typ., 200 nA max.	$V_{CE} = 20$ V, 0 lx
	Leakage current	$I_{LEAK}$ ---	---
	Collector–Emitter saturated voltage	$V_{CE(sat)}$ 0.1 V typ., 0.4 V max.	$I_F = 40$ mA, $I_L = 0.5$ mA
	Peak spectral sensitivity wavelength	$\lambda_P$ 850 nm typ.	$V_{CE} = 10$ V
Rising time	$t_r$	4 μs typ.	$V_{CC} = 5$ V, $R_L = 100 \Omega$ , $I_L = 5$ mA
Falling time	$t_f$	4 μs typ.	$V_{CC} = 5$ V, $R_L = 100 \Omega$ , $I_L = 5$ mA

■ Engineering Data

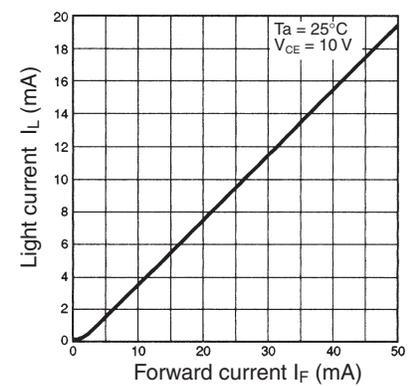
**Forward Current vs. Collector Dissipation Temperature Rating**



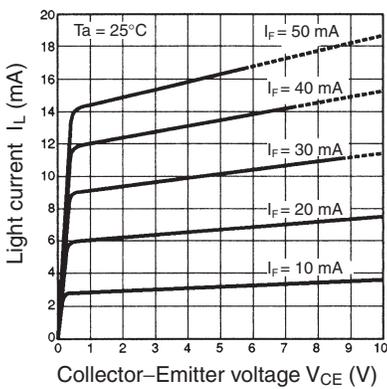
**Forward Current vs. Forward Voltage Characteristics (Typical)**



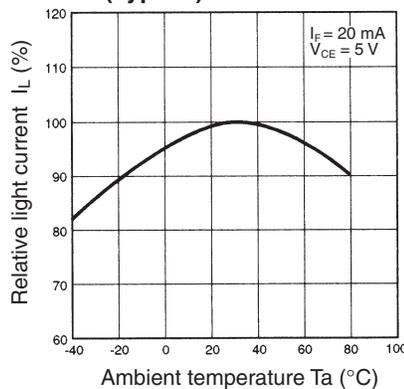
**Light Current vs. Forward Current Characteristics (Typical)**



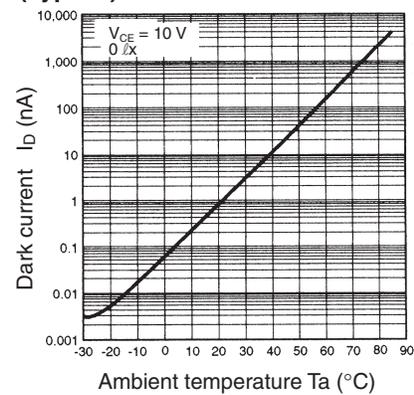
**Light Current vs. Collector-Emitter Voltage Characteristics (Typical)**



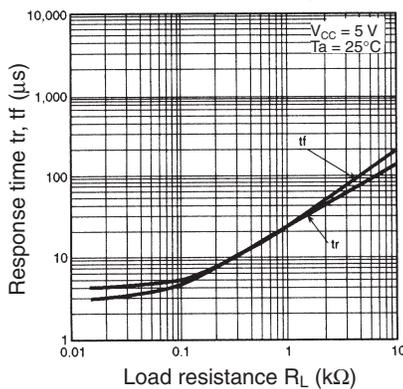
**Relative Light Current vs. Ambient Temperature Characteristics (Typical)**



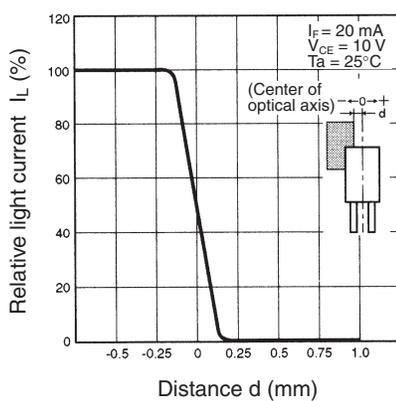
**Dark Current vs. Ambient Temperature Characteristics (Typical)**



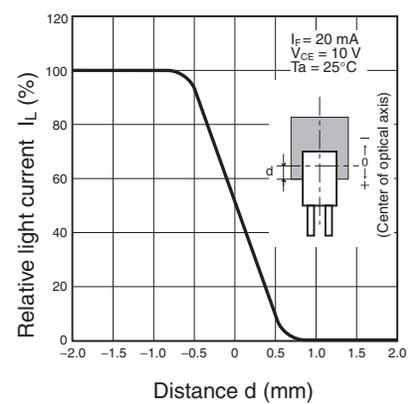
**Response Time vs. Load Resistance Characteristics (Typical)**



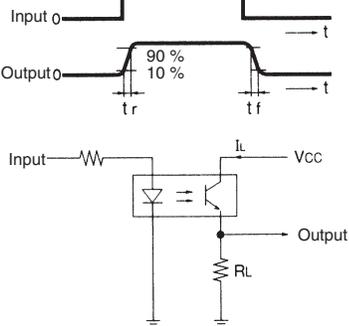
**Sensing Position Characteristics (Typical)**



**Sensing Position Characteristics (Typical)**



**Response Time Measurement Circuit**



A large grid of 20 columns and 30 rows of small squares, used for taking notes or recording data. The grid is composed of thin, light gray lines forming a uniform pattern across the page.

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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