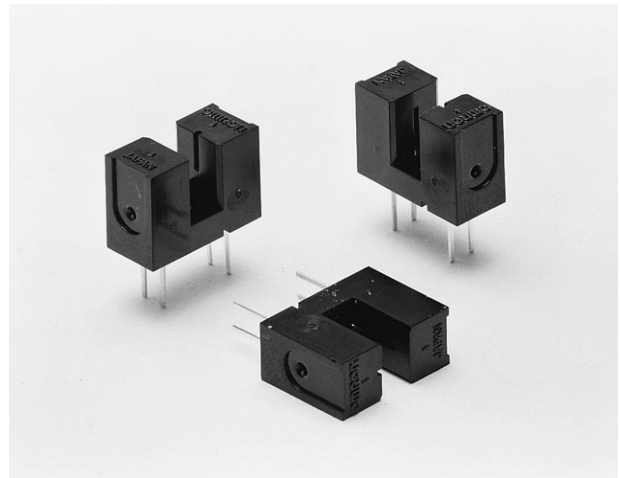
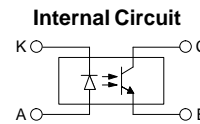
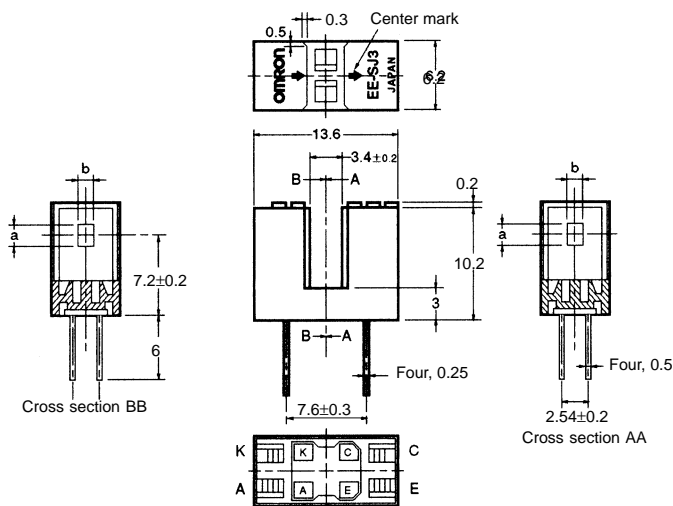


Transmissive

- Phototransistor output.
- High-resolution model with a 0.2-mm-wide sensing aperture; EE-SJ3D
- High sensitivity model; EE-SJ3-C
- Horizontal sensing aperture model; EE-SJ3-G
- PCB mounting.



Dimensions



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

Unless otherwise specified, the tolerances are as shown below.

Dimensions	Tolerance
3 mm max.	±0.2
3 < mm ≤ 6	±0.24
6 < mm ≤ 10	±0.29
10 < mm ≤ 18	±0.35
18 < mm ≤ 30	±0.42

Model	Slit (a x b)
EE-SJ3-C	2.1 x 1.0
EE-SJ3-D	2.1 x 0.2
EE-SJ3-G	0.5 x 2.1

Specifications

■ Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value
Emitter	Forward current	I_F
	Pulse forward current	I_{FP}
	Reverse voltage	V_R
Detector	Collector-Emitter voltage	V_{CEO}
	Emitter-Collector voltage	V_{ECO}
	Collector current	I_C
	Collector dissipation	P_C
Ambient temperature	Operating	T_{opr}
	Storage	T_{stg}
	Soldering	T_{sol}

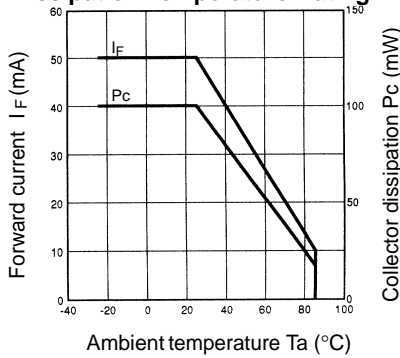
- Note:**
1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.
 2. The pulse width is 10 μs maximum with a frequency of 100 Hz.

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

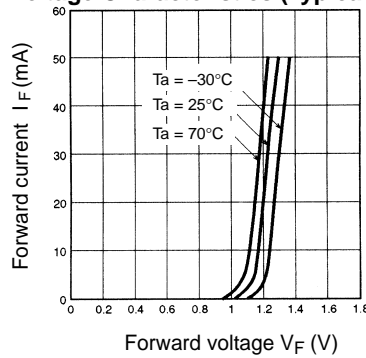
Item		Symbol	Value			Condition
			EE-SJ3-C	EE-SJ3-D	EE-SJ3-G	
Emitter	Forward voltage	V_F	1.2 V typ., 1.5 V max.			$I_F = 30$ mA
	Reverse current	I_R	0.01 μ A typ., 10 μ A max.			$V_R = 4$ V
	Peak emission wavelength	λ_P	940 nm typ.			$I_F = 20$ mA
Detector	Light current	I_L	1 to 28 mA typ.	0.1 mA min.	0.5 to 14 mA	$I_F = 20$ 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	λ_P	850 nm typ.			$V_{CE} = 10$ V
Rising time		t_r	4 μ s typ.			$V_{CC} = 5$ V, $R_L = 100$ Ω , $I_L = 5$ mA
Falling time		t_f	4 μ s typ.			

■ Engineering Data

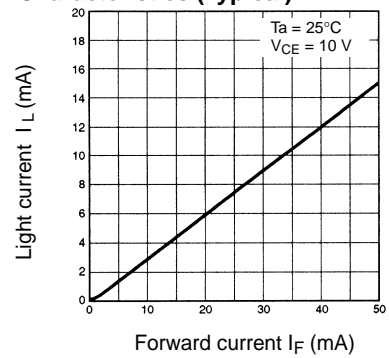
Forward Current vs. Collector Dissipation Temperature Rating



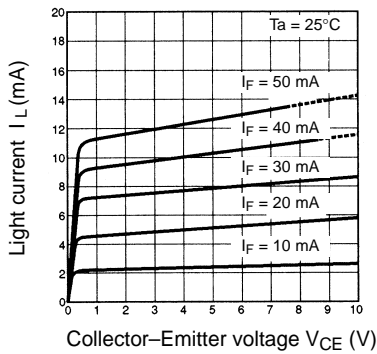
Forward Current vs. Forward Voltage Characteristics (Typical)



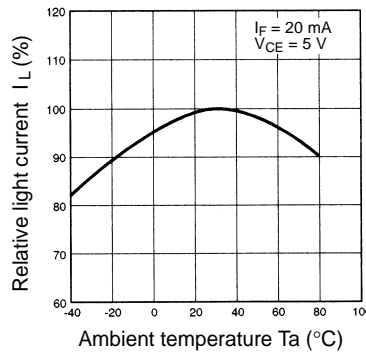
Light Current vs. Forward Current Characteristics (Typical)



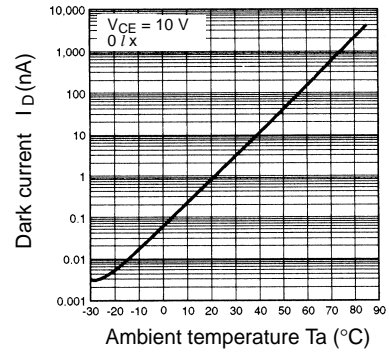
Light Current vs. Collector–Emitter Voltage Characteristics (EE-SJ3-G)



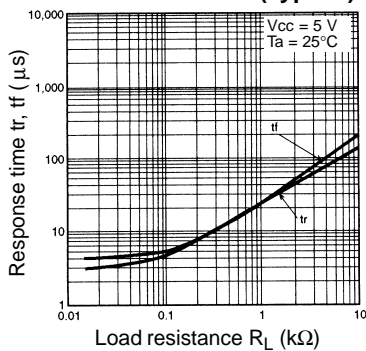
Relative Light Current vs. Ambient Temperature Characteristics (Typical)



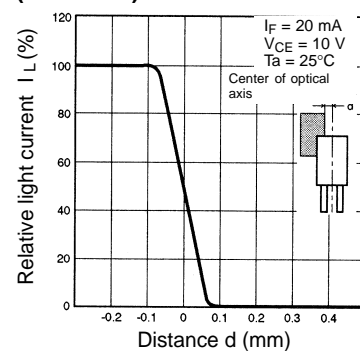
Dark Current vs. Ambient Temperature Characteristics (Typical)



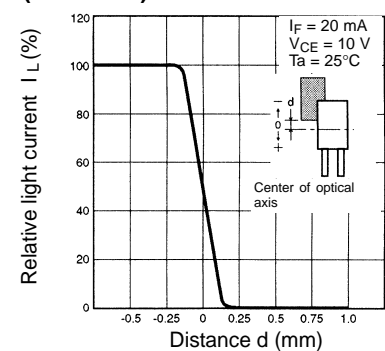
Response Time vs. Load Resistance Characteristics (Typical)



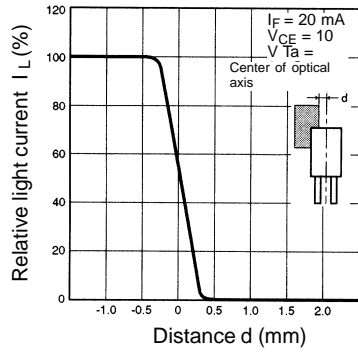
Sensing Position Characteristics (EE-SJ3-D)



Sensing Position Characteristics (EE-SJ3-G)



Sensing Position Characteristics (EE-SJ3-C)



Response Time Measurement Circuit

