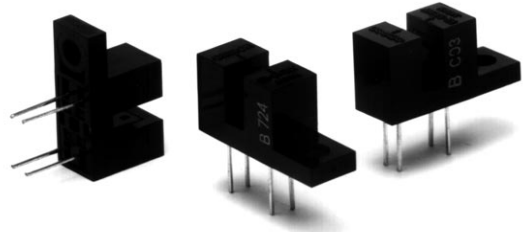
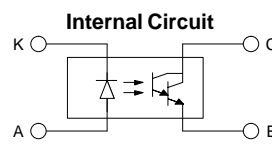
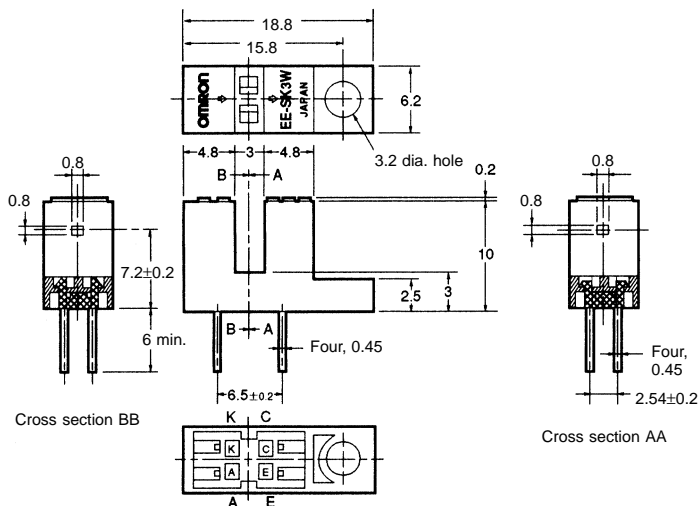


Transmissive

- Photo-Darlington output.
- General-purpose model with a 3-mm-wide slot.
- PCB mounting type.
- Incorporating a visible red light LED as emitter.
- 1.5mA output (Min) with only 3mA forward LED current.
- Includes screw fixing tab.



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.	±0.3
3 < mm ≤ 6	±0.375
6 < mm ≤ 10	±0.45
10 < mm ≤ 18	±0.55
18 < mm ≤ 30	±0.65

Specifications

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value
Emitter	Forward current	I_F 15 mA (see note 1)
	Pulse forward current	I_{FP} ---
	Reverse voltage	V_R 4 V
Detector	Collector-Emitter voltage	V_{CEO} 24 V
	Emitter-Collector voltage	V_{ECO} ---
	Collector current	I_C 20 mA
	Collector dissipation	P_C 75 mW (see note 1)
Ambient temperature	Operating	T_{opr} -20°C to 60°C
	Storage	T_{stg} -20°C to 80°C
	Soldering	T_{sol} 260°C

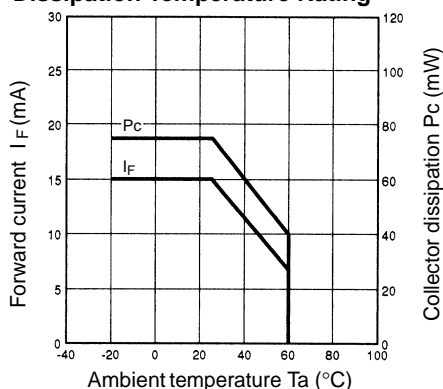
- Note:**
1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.
 2. The pulse width is 10 μ s maximum with a frequency of 100 Hz.

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

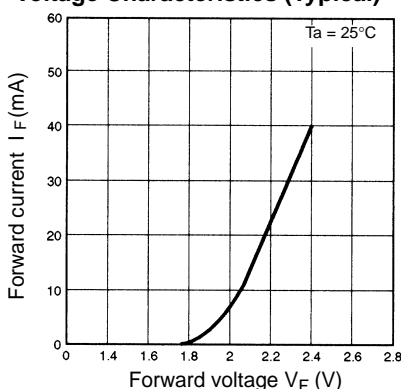
Item		Symbol	Value	Condition
Emitter	Forward voltage	V_F	2.0 V typ., 2.6 V max.	$I_F = 15 \text{ mA}$
	Reverse current	I_R	0.01 μA typ., 5 μA max.	$V_R = 4 \text{ V}$
	Peak emission wavelength	λ_P	700 nm typ.	$I_F = 3 \text{ mA}$
Detector	Light current	I_L	1.5 mA min., 120 mA max.	$I_F = 3 \text{ mA}, V_{CE} = 10 \text{ V}$
	Dark current	I_D	2 nA typ., 250 nA max.	$V_{CE} = 10 \text{ V}, 0 \ell x$
	Leakage current	I_{LEAK}	---	---
	Collector–Emitter saturated voltage	$V_{CE}(\text{sat})$	0.9 V typ.	$I_F = 3 \text{ mA}, I_L = 0.5 \text{ mA}$
	Peak spectral sensitivity wavelength	λ_P	800 nm typ.	$V_{CE} = 10 \text{ V}$
	Rising time	t_r	180 μs typ.	$V_{CC} = 5 \text{ V}, R_L = 100 \Omega, I_L = 10 \text{ mA}$
Falling time	t_f	60 μs typ.	$V_{CC} = 5 \text{ V}, R_L = 100 \Omega, I_L = 10 \text{ mA}$	

Engineering Data

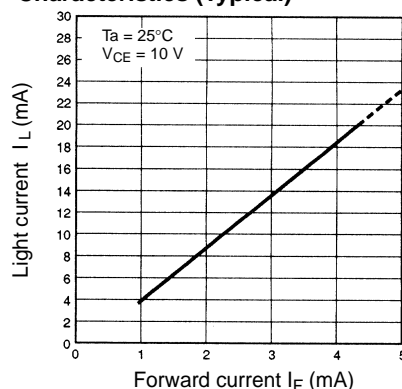
Forward Current vs. Collector Dissipation Temperature Rating



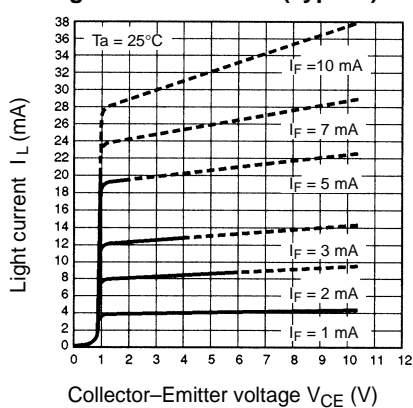
Forward Current vs. Forward Voltage Characteristics (Typical)



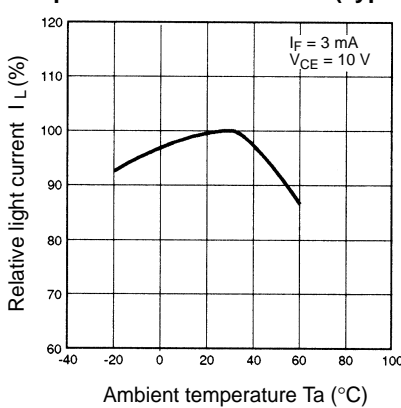
Light Current vs. Forward Current Characteristics (Typical)



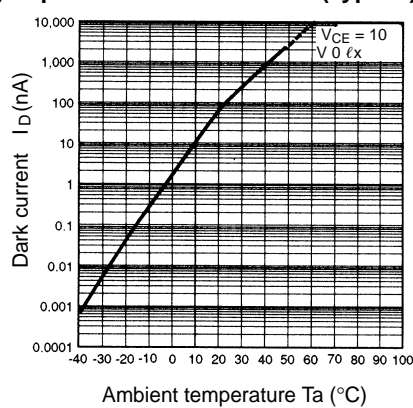
Light Current vs. Collector–Emitter Voltage Characteristics (Typical)



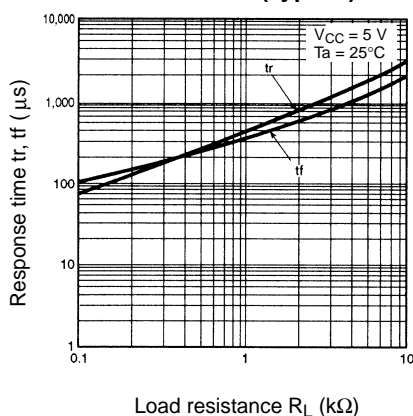
Relative Light Current vs. Ambient Temperature Characteristics (Typical)



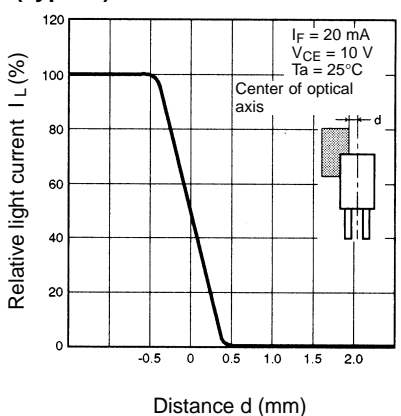
Dark Current vs. Ambient Temperature Characteristics (Typical)



Response Time vs. Load Resistance Characteristics (Typical)



Sensing Position Characteristics (Typical)



Response Time Measurement Circuit

