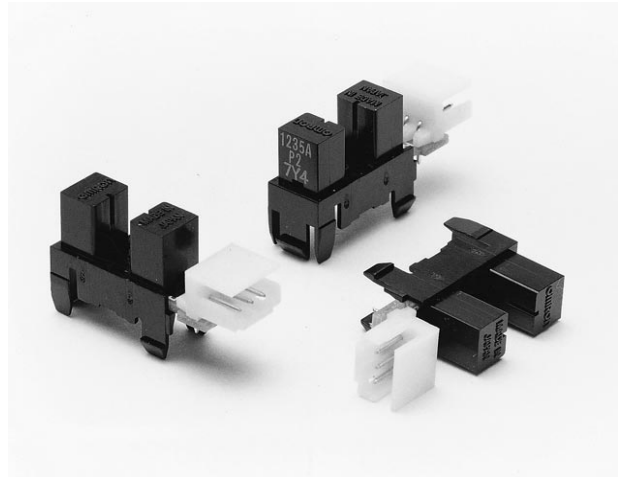
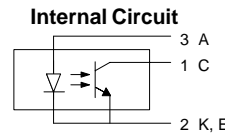
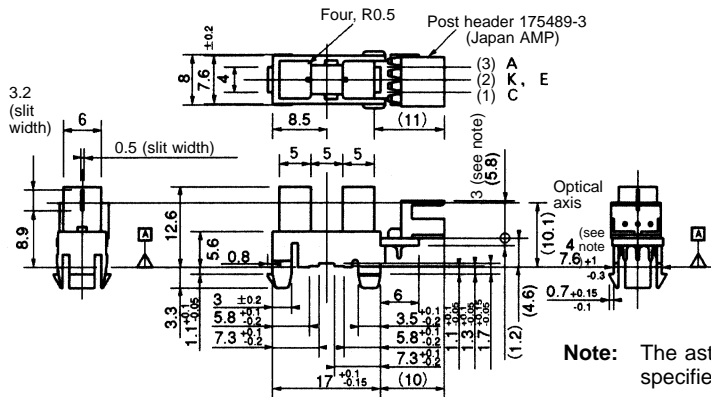


### Transmissive

- Phototransistor output.
- Snap-in mounting mechanism for easy mounting and dismounting.
- Compatible with 1.0-, 1.2- and 1.6-mm-thick PCBs.
- High resolution with a 0.5-mm-wide aperture.
- 5-mm-wide slot.
- Connects to Japan AMP's CT-series connectors.



### Dimensions



Terminal No.	Name
3 A	Anode
1 C	Collector
2 K, E	Cathode, 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

Recommended Connectors:

- Japan AMP 173977-3 (insulation displacement-type connector)
- 175778-3 (crimp-type connector)
- 179228-3 (crimp-type connector)

For recommended mounting holes see EE-SX4235-P2 on page 402

### Specifications

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

Item	Symbol	Rated value
Emitter	Forward current	I <sub>F</sub> 50 mA (see note)
	Pulse forward current	I <sub>FP</sub> ---
	Reverse voltage	V <sub>R</sub> 4 V
Detector	Collector-Emitter voltage	V <sub>CEO</sub> 30 V
	Emitter-Collector voltage	V <sub>ECO</sub> 5 V
	Collector current	I <sub>C</sub> 20 mA
	Collector dissipation	P <sub>C</sub> 100 mW (see note)
	Ambient temperature	Operating
	Storage	T <sub>stg</sub> -40°C to 100°C
	Soldering	T <sub>sol</sub> ---

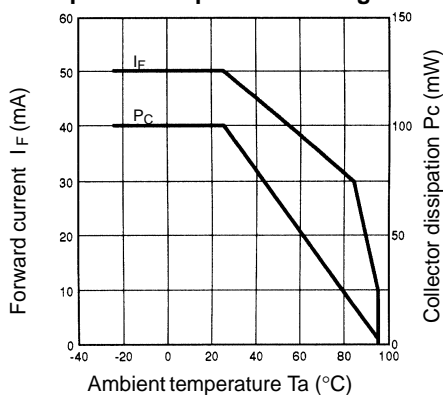
Note: Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

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

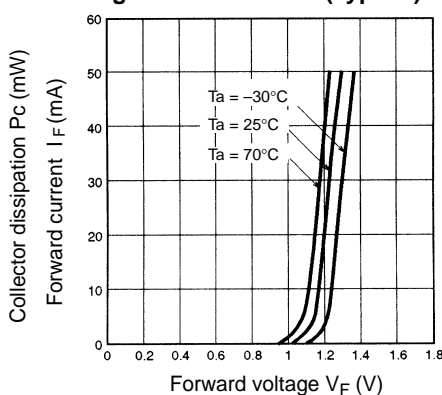
Item		Symbol	Value	Condition
Emitter	Forward voltage	$V_F$	1.2 V typ., 1.5 V max.	$I_F = 30$ mA
	Reverse current	$I_R$	0.01 $\mu$ A typ., 10 $\mu$ A max.	$V_R = 4$ V
	Peak emission wavelength	$\lambda_P$	940 nm typ.	$I_F = 30$ mA
Detector	Light current	$I_L$	0.6 mA min., 14 mA max.	$I_F = 20$ mA, $V_{CE} = 5$ V
	Dark current	$I_D$	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, $I_L = 0.3$ mA
	Peak spectral sensitivity wavelength	$\lambda_P$	850 nm typ.	$V_{CE} = 5$ V
Rising time		$t_r$	8 $\mu$ s typ.	$V_{CC} = 5$ V, $R_L = 100 \Omega$ , $I_L = 1$ mA
Falling time		$t_f$	8 $\mu$ s typ.	$V_{CC} = 5$ V, $R_L = 100 \Omega$ , $I_L = 1$ mA

## Engineering Data

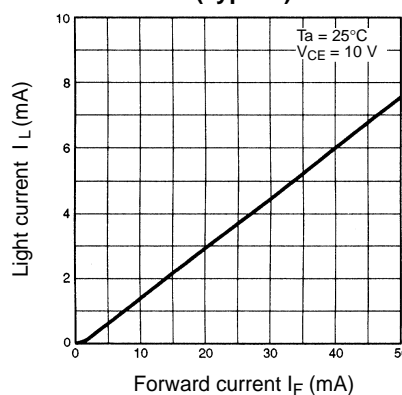
**Forward Current vs. Collector Dissipation Temperature Rating**



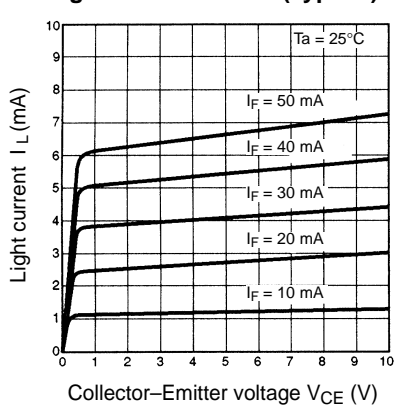
**Forward Current vs. Forward Voltage Characteristics (Typical)**



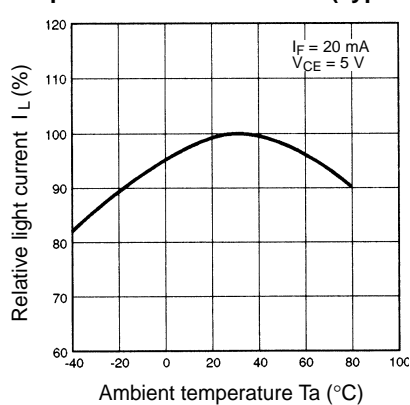
**Light Current vs. Forward Current Characteristics (Typical)**



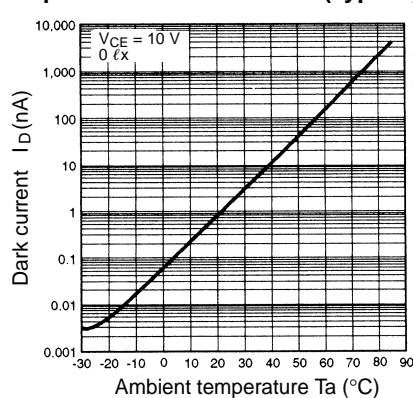
**Light Current vs. Collector-Emitter Voltage Characteristics (Typical)**



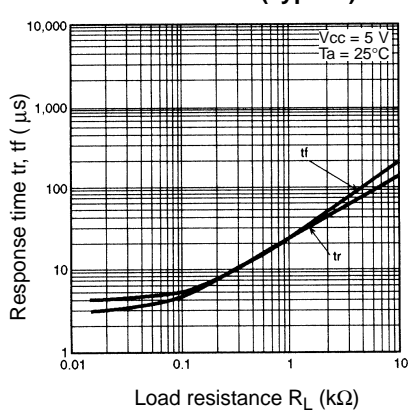
**Relative Light Current vs. Ambient Temperature Characteristics (Typical)**



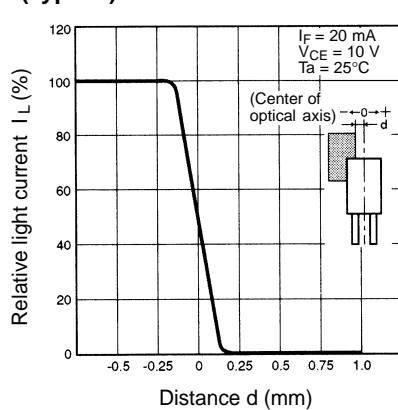
**Dark Current vs. Ambient Temperature Characteristics (Typical)**



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



**Sensing Position Characteristics (Typical)**



**Response Time Measurement Circuit**

