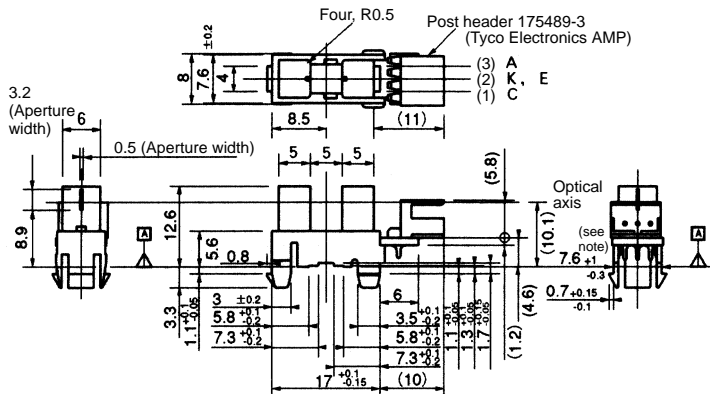


# EE-SX1235A-P2

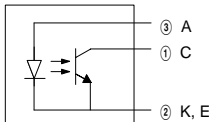
## Photomicrosensor (Transmissive)

### ■ Dimensions

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



#### Internal Circuit



**Note:** The asterisked dimension is specified by datum A only. 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
C	Collector
K, E	Cathode, Emitter

Recommended Mating Connectors:

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

### ■ Features

- Snap-in mounting model.
- Mounts to 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 Tyco Electronics AMP's CT-series connectors.

### ■ 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	T <sub>opr</sub> –25°C to 95°C
	Storage	T <sub>stg</sub> –40°C to 100°C
Soldering temperature	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 <sub>F</sub> 1.2 V typ., 1.5 V max.	I <sub>F</sub> = 30 mA
	Reverse current	I <sub>R</sub> 0.01 μA typ., 10 μA max.	V <sub>R</sub> = 4 V
	Peak emission wavelength	λ <sub>P</sub> 940 nm typ.	I <sub>F</sub> = 30 mA
Detector	Light current	I <sub>L</sub> 0.6 mA min., 14 mA max.	I <sub>F</sub> = 20 mA, V <sub>CE</sub> = 5 V
	Dark current	I <sub>D</sub> 200 nA max.	V <sub>CE</sub> = 10 V, 0 lx
	Leakage current	I <sub>LEAK</sub> ---	---
	Collector–Emitter saturated voltage	V <sub>CE</sub> (sat) 0.1 V typ., 0.4 V max.	I <sub>F</sub> = 20 mA, I <sub>L</sub> = 0.3 mA
	Peak spectral sensitivity wavelength	λ <sub>P</sub> 850 nm typ.	V <sub>CE</sub> = 5 V
Rising time	t <sub>r</sub>	8 μs typ.	V <sub>CC</sub> = 5 V, R <sub>L</sub> = 100 Ω, I <sub>L</sub> = 1 mA
Falling time	t <sub>f</sub>	8 μs typ.	V <sub>CC</sub> = 5 V, R <sub>L</sub> = 100 Ω, I <sub>L</sub> = 1 mA