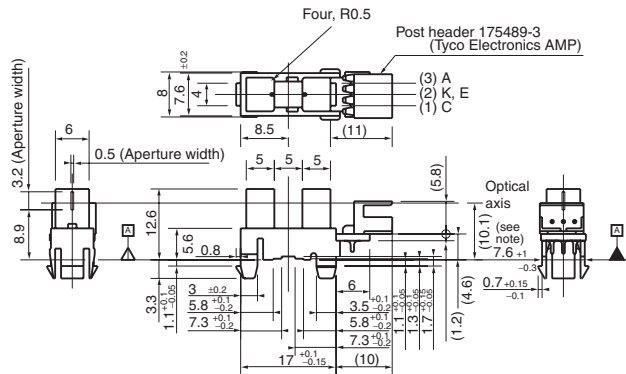


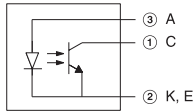
Photomicrosensor (Transmissive) EE-SX1235A-P2

■ 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 (press-fit connector)
 175778-3 (crimp connector)
 179228-3 (crimp 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.
- RoHS Compliant.

■ Absolute Maximum Ratings (Ta = 25° C)

Item	Symbol	Rated value
Emitter	Forward current	I_F 50 mA (see note)
	Pulse forward current	I_{FP} ---
	Reverse voltage	V_R 4 V
Detector	Collector-Emitter voltage	V_{CEO} 30 V
	Emitter-Collector voltage	V_{ECO} 5 V
	Collector current	I_C 20 mA
	Collector dissipation	P_C 100 mW (see note)
Ambient temperature	Operating	T_{opr} -25° C to 95° C
	Storage	T_{stg} -40° C to 100° C
Soldering temperature	T_{sol}	---

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

■ Ordering Information

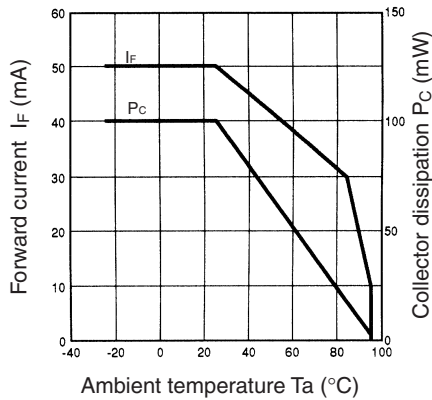
Description	Model
Photomicrosensor (transmissive)	EE-SX1235A-P2

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

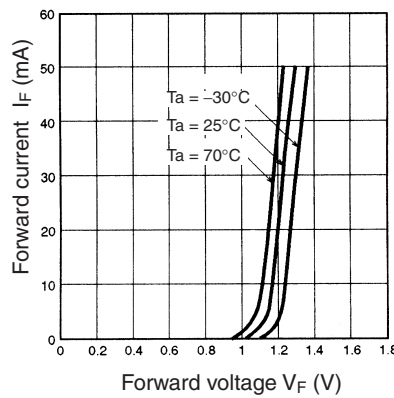
Item	Symbol	Value	Condition
Emitter	Forward voltage	V_F 1.2 V typ., 1.5 V max.	$I_F = 30$ mA
	Reverse current	I_R 0.01 μ A typ., 10 μ A max.	$V_R = 4$ V
	Peak emission wavelength	λ_p 940 nm typ.	$I_F = 30$ mA
Detector	Light current	I_L 0.6 mA min., 14 mA max.	$I_F = 20$ mA, $V_{CE} = 5$ V
	Dark current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

■ Engineering Data

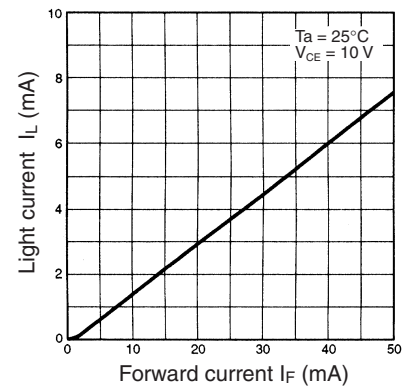
Forward Current vs. Collector Dissipation Temperature Rating



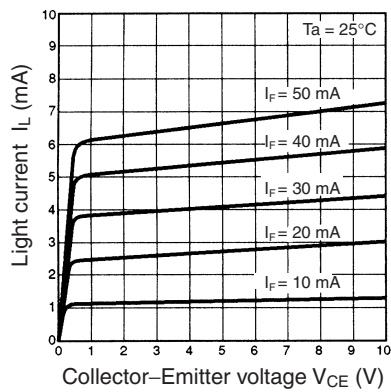
Forward Current vs. Forward Voltage Characteristics (Typical)



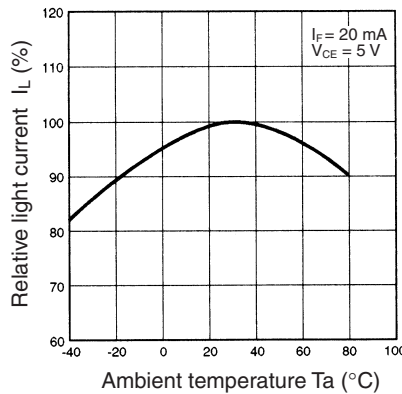
Light Current vs. Forward Current Characteristics (Typical)



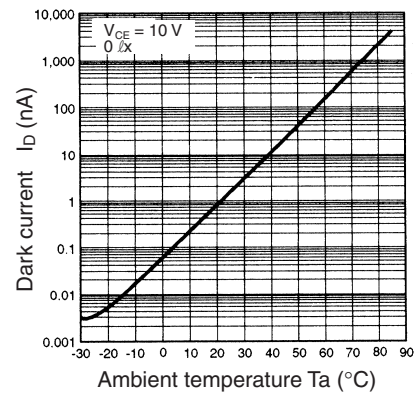
Light Current vs. Collector-Emitter Voltage Characteristics (Typical)



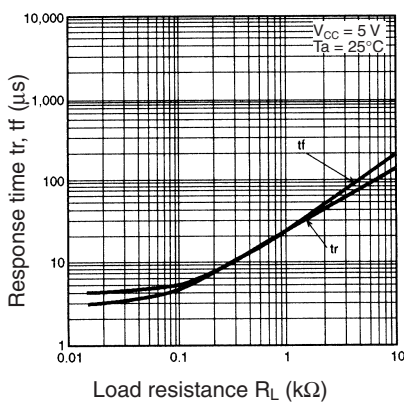
Relative Light Current vs. Ambient Temperature Characteristics (Typical)



Dark Current vs. Ambient Temperature Characteristics (Typical)

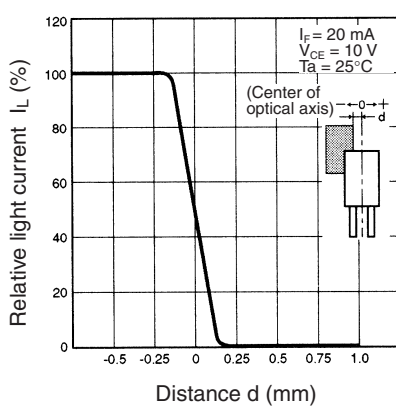


Response Time vs. Load Resistance Characteristics (Typical)

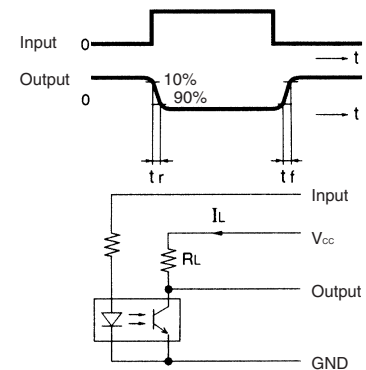


Refer to EE-SX4235A-P2 on page 1.

Sensing Position Characteristics (Typical)



Response Time Measurement Circuit



Omron Electronic Components, LLC

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