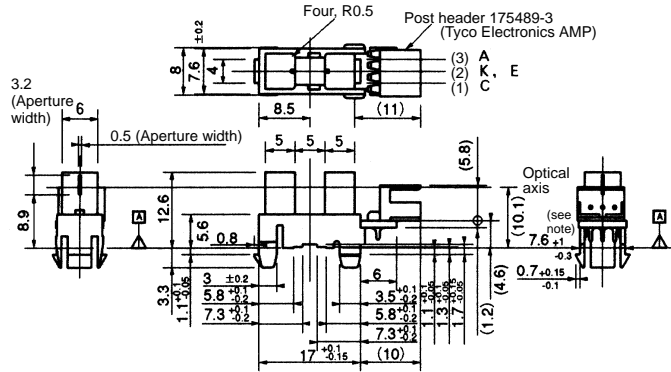


EE-SX1235A-P2

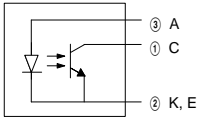
Photomicrosensor (Transmissive)

■ 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_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.

■ 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 | |