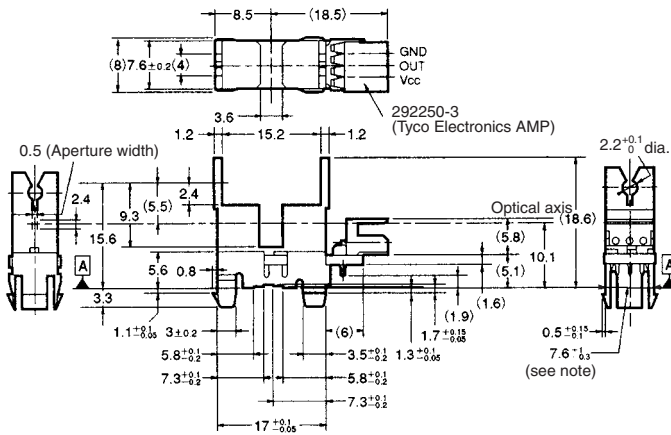


Photomicrosensor (Actuator Mounted) EE-SA407-P2

⚠ Be sure to read *Precautions* on page 25.

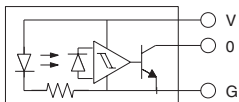
■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Note: The dimension is specified by datum A only.

Internal Circuit



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 |
|--------------|---------------------------------|
| V | Power supply (V _{CC}) |
| O | Output (OUT) |
| G | Ground (GND) |

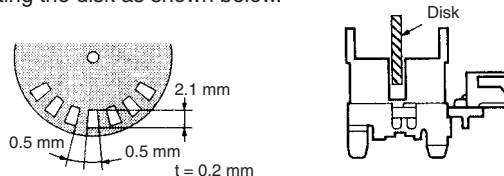
Recommended Mating Connectors:

Tyco Electronics AMP 179228-3 (crimp connector)
175778-3 (crimp connector)
173977-3 (press-fit connector)

■ Electrical and Optical Characteristics (Ta = 25°C, V_{CC} = 5 V ±10%)

| Item | Symbol | Value | Condition |
|---------------------------|-----------------|--------------------------------|---|
| Current consumption | I _{CC} | 30 mA max. | With and without incident |
| Low-level output voltage | V _{OL} | 0.35 V max. | I _{OUT} = 16 mA with incident |
| High-level output voltage | V _{OH} | (V _{CC} × 0.9) V min. | V _{OUT} = V _{CC} without incident, R _L = 47 kΩ |
| Response frequency | f | 3 kHz min. | V _{OUT} = V _{CC} , R _L = 47 kΩ (see note) |

Note: The value of the response frequency is measured by rotating the disk as shown below.



■ Features

- An actuator can be attached.
- Snap-in mounting model.
- Mounts to 1.0-, 1.2- and 1.6-mm-thick panels.
- High resolution with a 0.5-mm-wide sensing aperture.
- With a 3.6-mm-wide slot.
- Photo IC output signals directly connect with logic circuit and TTL.
- Connects to Tyco Electronics AMP's CT-series connectors.

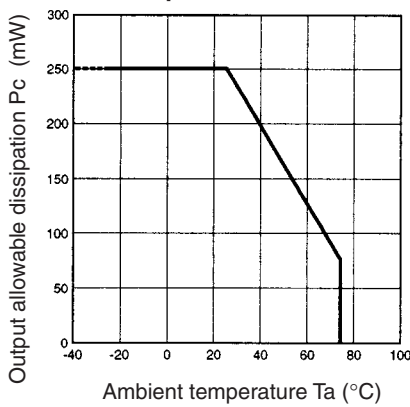
■ Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Rated value | |
|--------------------------------|------------------|-------------------|---------------|
| Power supply voltage | V _{CC} | 7 V | |
| Output voltage | V _{OUT} | 28 V | |
| Output current | I _{OUT} | 16 mA | |
| Permissible output dissipation | P _{OUT} | 250 mW (see note) | |
| Ambient temperature | Operating | T _{opr} | -20°C to 75°C |
| | Storage | T _{stg} | -40°C to 85°C |
| Soldering temperature | T _{sol} | --- | |

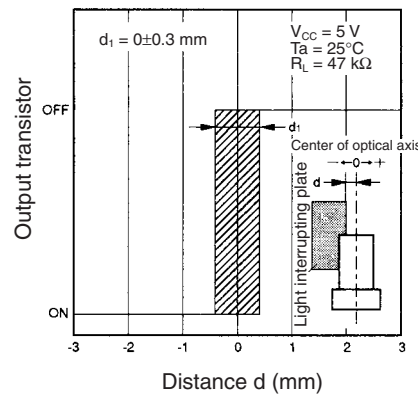
Note: Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

Engineering Data

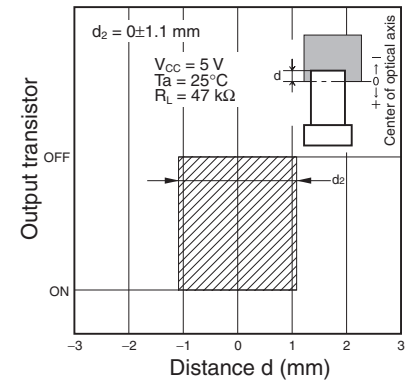
Output Allowable Dissipation vs. Ambient Temperature Characteristics



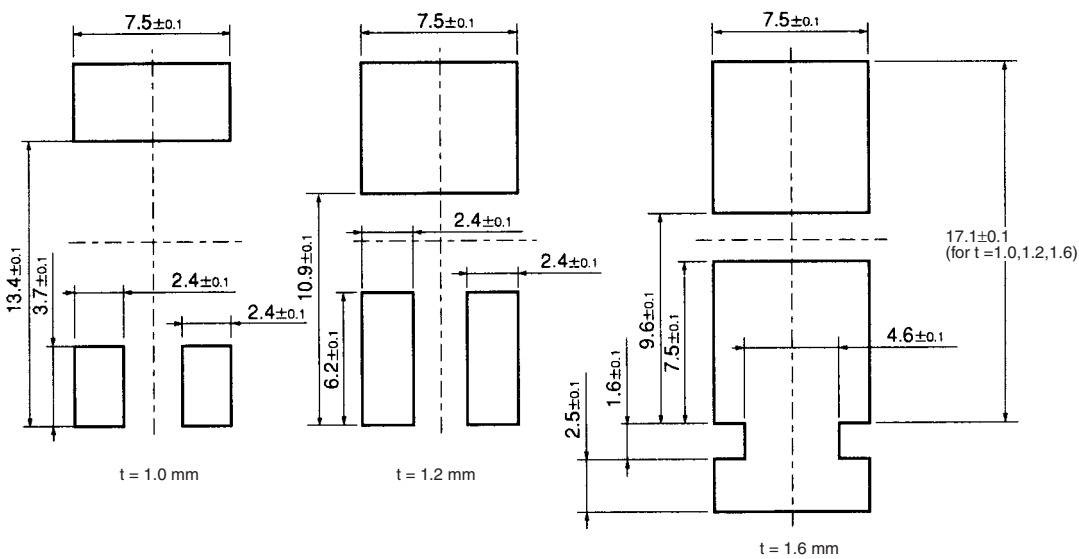
Sensing Position Characteristics (Typical)



Sensing Position Characteristics (Typical)

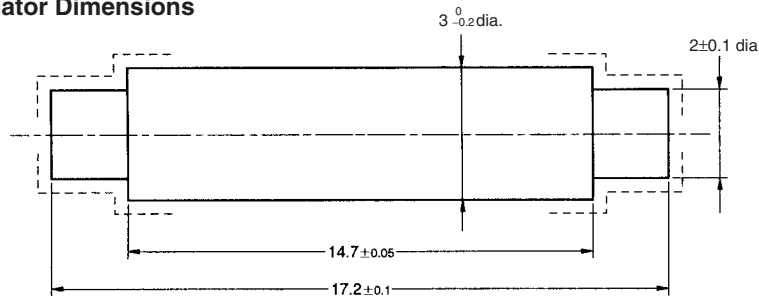


Recommended Mounting Holes



- When mounting the Photomicrosensor to a panel with a hole opened by pressing, make sure that the hole has no burrs. The mounting strength of the Photomicrosensor will decrease if the hole has burrs.
- When mounting the Photomicrosensor to a panel with a hole opened by pressing, be sure to mount the Photomicrosensor on the pressing side of the panel.
- The mounting strength of the Photomicrosensor will increase if the Photomicrosensor is mounted to a panel with a hole that is only a little larger than the size of the Photomicrosensor, in which case, however, it will be difficult to mount the Photomicrosensor to the panel. The mounting strength of the Photomicrosensor will decrease if the Photomicrosensor is mounted to a panel with a hole that is comparatively larger than the size of the Photomicrosensor, in which case, however, it will be easy to mount the Photomicrosensor to the panel. When mounting the Photomicrosensor to a panel, open an appropriate hole for the Photomicrosensor according to the application.
- After mounting the Photomicrosensor to any panel, make sure that the Photomicrosensor does not wobble.
- When mounting the Photomicrosensor to a molding with a hole, make sure that the edges of the hole are sharp enough, otherwise the Photomicrosensor may come fall out.

Actuator Dimensions



- Note:**
1. Make sure that the portions marked with dotted lines have no burrs.
 2. The material of the actuator must be selected by considering the infrared permeability of the actuator.