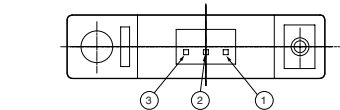
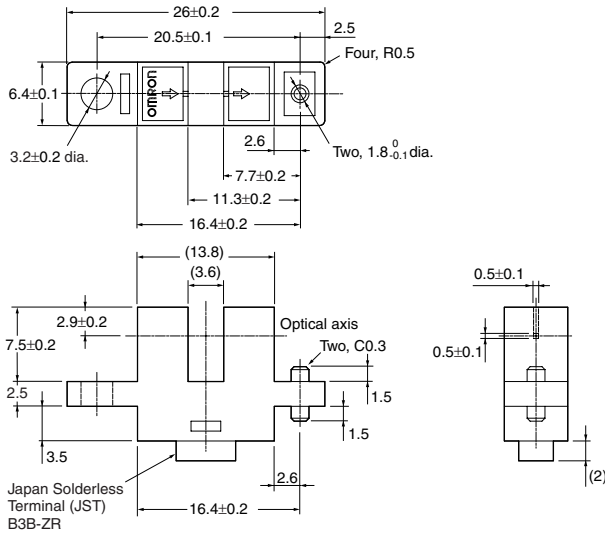


Photo IC Output Photomicrosensor (Transmissive) EE-SX3148-P1

⚠ Be sure to read Precautions on page 25.

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



Unless otherwise specified, the tolerances are as shown below.

| Dimensions | Tolerance |
|--------------|-----------|
| 3 mm max. | ±0.200 |
| 3 < mm ≤ 6 | ±0.240 |
| 6 < mm ≤ 10 | ±0.290 |
| 10 < mm ≤ 18 | ±0.350 |
| 18 < mm ≤ 30 | ±0.420 |

| Terminal No. | Name |
|--------------|---------------------------------|
| 1 | Power supply (V _{CC}) |
| 2 | Output (OUT) |
| 3 | Ground (GND) |

Recommended Mating Connectors:
 JST (Japan Solderless Terminal) ZHR-3 Series (crimp connector)
 03ZR Series (press-fit connector)

■ Features

- A boss on one side enables securing the Sensor with one M2 or M3 screw.
- Sensor can be installed from either top or bottom of mounting plate.
- High resolution both vertically and horizontally (slot dimensions: 0.5 x 0.5 mm)
- 3.6-mm-wide slot.
- Photo-IC output connects directly to CMOS and TTL devices.
- Applicable to the ZH and ZR Connector Series from JST (Japan Solderless Terminal).

■ Absolute Maximum Ratings (Ta = 25°C)

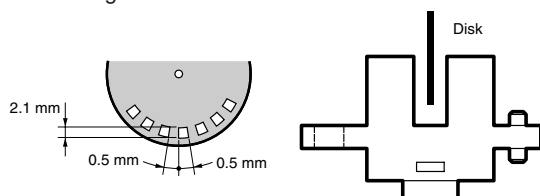
| Item | Symbol | Rated value |
|--------------------------------|------------------|--------------------------------|
| Power supply voltage | V _{CC} | 6 VDC |
| Output voltage | V _{OUT} | 28 V |
| Output current | I _{OUT} | 16 mA |
| Permissible output dissipation | P _{OUT} | 250 mW (see note) |
| 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.

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

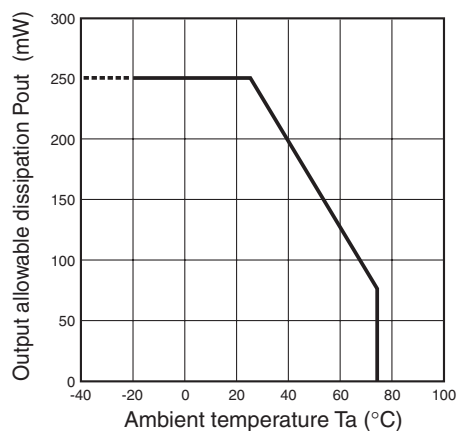
| Item | Symbol | Value | Condition |
|---------------------------|-----------------|--------------------------------|--|
| Current consumption | I _{CC} | 30 mA max. | With and without incident |
| Low-level output voltage | V _{OL} | 0.3 V max. | I _{OUT} = 16 mA without incident |
| High-level output voltage | V _{OH} | (V _{CC} × 0.9) V min. | V _{OUT} = V _{CC} with 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.

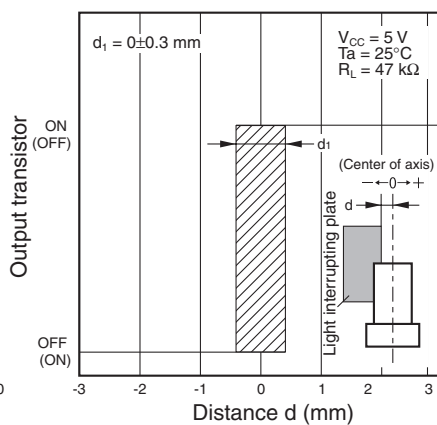


■ Engineering Data

Output Allowable Dissipation vs. Ambient Temperature Characteristics



Sensing Position Characteristics (Typical)



Sensing Position Characteristics (Typical)

