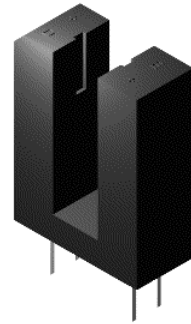


## Photo-Interrupter Slot Type Gap 4.6mm

**OI S46134**

### Description

The construction of this device is to lay a 940nm Infrared LED facing a Phototransistor on the same axis. Employ reflection concept thus triggering a ON-OFF receiving signal. The most significant advantage of this product is it carries a function of a non-contact switch. It is free from any underlying mechanical stress in conventional switches.



### Features

- Non contact switching
- Daylight blocking filter
- Emitter wavelength : 940nm
- Lead (Pb) – free soldering release

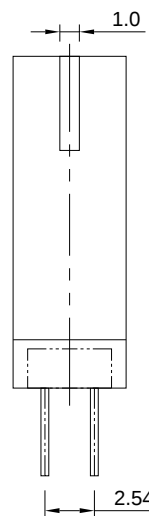
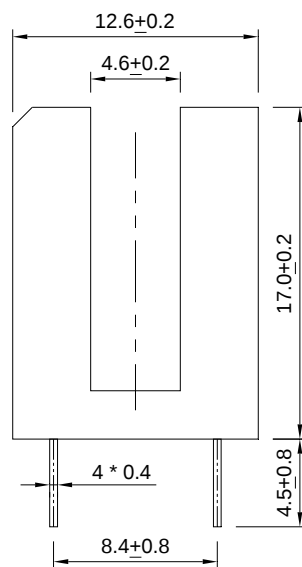
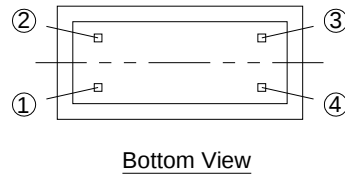
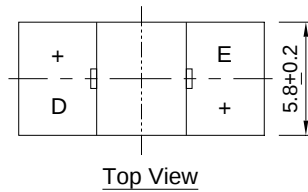


### Application

- Position sensor for shaft encoder
- Detection of opaque material
- Paper position sensor in copy machines

## Package Dimension:

unit: mm



- ① Anode
- ② Cathode
- ③ Collector
- ④ Emitter

### Notes:

1. All dimensions are millimeters.
2. Dimensional tolerance is  $\pm 0.2\text{mm}$  unless otherwise specified.
3. Specifications are subject to change without notice.

### Electro-Optical Characteristics (Ta=25°C)

| Parameter               |                        | Symbol               | Min. | Typ. | Max. | Unit            | Condition                                                       |
|-------------------------|------------------------|----------------------|------|------|------|-----------------|-----------------------------------------------------------------|
| Emitting Diode          | Forward Voltage        | $V_F$                | -    | 1.2  | 1.5  | V               | $I_F=20\text{mA}$                                               |
|                         | Reverse Current        | $I_R$                | -    | -    | 10   | $\mu\text{A}$   | $V_R=5\text{V}$                                                 |
|                         | Peak Wavelength        | $\lambda_P$          | -    | 940  | -    | nm              | $I_F=20\text{mA}$                                               |
|                         | View Angle             | $2\frac{1}{2}\theta$ | -    | 60   | -    | Deg             | $I_F=20\text{mA}$                                               |
| Photo Transistor        | Collector Dark Current | $I_{CEO}$            | -    | -    | 100  | nA              | $V_{CE}=10\text{V}$                                             |
| Transfer Characteristic | C-E Saturation Voltage | $V_{CE(sat)}$        | -    | -    | 0.4  | V               | $I_C=2\text{mA}$<br>$I_F=20\text{mA}$                           |
|                         | Collector Current      | $I_C(ON)$            | 0.25 | --   | --   | mA              | $V_{CE}=5\text{V}$<br>$I_F=8\text{mA}$                          |
|                         | Rise Time              | $t_r$                | -    | 15   | --   | $\mu\text{sec}$ | $V_{CE}=5\text{V}$<br>$I_C=1\text{mA}$<br>$R_L=1\text{K}\Omega$ |
|                         | Fall Time              | $t_f$                | -    | 15   | --   | $\mu\text{sec}$ |                                                                 |

### Absolute Maximum Ratings (Ta=25°C)

| Parameter                  |                                                                             | Symbol    | Ratings | Unit |
|----------------------------|-----------------------------------------------------------------------------|-----------|---------|------|
| Emitting Diode             | Power Dissipation                                                           | $P_d$     | 100     | mW   |
|                            | Reverse Voltage                                                             | $V_R$     | 5       | V    |
|                            | Forward Current                                                             | $I_F$     | 50      | mA   |
|                            | Peak Forward Current<br>Pulse width $\leq 100\ \mu\text{s}$ , Duty cycle=1% | $I_{FP}$  | 1       | A    |
| Photo Transistor           | Collector Power Dissipation                                                 | $P_C$     | 75      | mW   |
|                            | Collector Current                                                           | $I_C$     | 50      | mA   |
|                            | Collector-Emitter Voltage                                                   | $V_{CEO}$ | 30      | V    |
|                            | Emitter-Collector Voltage                                                   | $V_{ECO}$ | 5       | V    |
| Operating Temperature      |                                                                             | $T_{opr}$ | -25~+85 | °C   |
| Storage Temperature        |                                                                             | $T_{stg}$ | -40~+85 | °C   |
| Lead Soldering Temperature |                                                                             | $T_{sol}$ | 260     | °C   |

Note: Please take note the Absolute Maximum Rating values. Any operation beyond the specified ratings in this table will result degradation of life-span and may cause product to fail.