

# KI1248,1249

Wide Gap • Slit less Type

Dimension (Unit:mm)

## Description

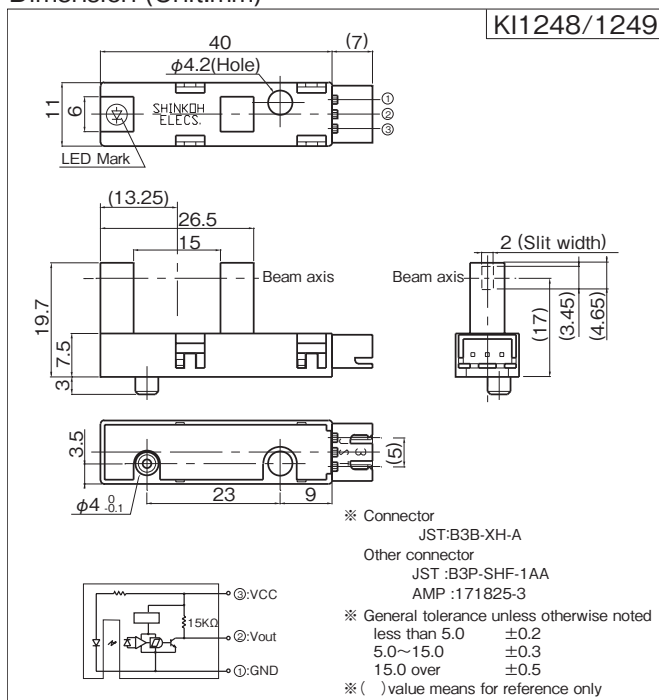
Model **KI1248/1249** consist of an Infra Red LED and a Photo IC.

## Feature

- Built-in amplifier, Pull-up Resistor output type.
- Easy removing in paper-dust.
- Wide gap-15mm, Deep ditch-12.2mm.
- The other model of 13mm wide gap as;  
Low level at emitting ... **KI1215**  
High level at emitting ... **KI1216**

## Application

- Object passing for Card reader, Bill exchanger.
- Object-passing for Auto vending machine and Amusement.
- Paper detection for O.A. equipment.



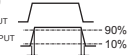
## Absolute Maximum Ratings

[Ta=25°C Unless otherwise noted]

| Item                  | Symbol           | Rating    | Units |
|-----------------------|------------------|-----------|-------|
| Supply Voltage        | V <sub>CC</sub>  | 6         | V     |
| Output Current        | I <sub>O</sub>   | 50        | mA    |
| Operating Temperature | T <sub>opr</sub> | -20 ~ +75 | °C    |
| Storage Temperature   | T <sub>stg</sub> | -40 ~ +80 | °C    |

| Model         | Operating mode         |
|---------------|------------------------|
| <b>KI1248</b> | at Beam detecting Low  |
| <b>KI1249</b> | at Beam detecting High |

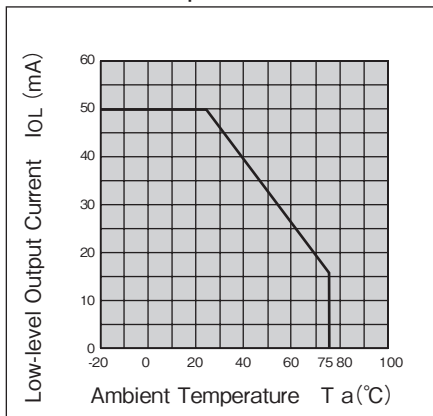
## Electro-Optical Characteristics [V<sub>CC</sub>=5V, Ta=25°C Unless otherwise noted]

| Item                        |         | Symbol           | Condition                                                                                                                                                                                                                                  |                                                 | min.                  | typ. | max. | Units |       |
|-----------------------------|---------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------|------|------|-------|-------|
| S u p p l y   V o l t a g e |         | V <sub>CC</sub>  |                                                                                                                                                                                                                                            |                                                 | 4.5                   | 5.0  | 5.5  | V     |       |
| Low Level Supply Current    |         | I <sub>CCL</sub> | KI1248                                                                                                                                                                                                                                     | at Beam detecting                               | —                     | —    | 25   | mA    |       |
|                             |         |                  | KI1249                                                                                                                                                                                                                                     | at Light block by object                        | —                     | —    | 25   |       |       |
| High Level Supply Current   |         | I <sub>CCH</sub> | KI1248                                                                                                                                                                                                                                     | at Light block by object                        | —                     | —    | 25   | mA    |       |
|                             |         |                  | KI1249                                                                                                                                                                                                                                     | at Beam detecting                               | —                     | —    | 25   |       |       |
| Low Level Output Voltage    |         | V <sub>OL</sub>  | KI1248                                                                                                                                                                                                                                     | at Beam detecting, I <sub>OL</sub> =16mA        | —                     | —    | 0.4  | V     |       |
|                             |         |                  | KI1249                                                                                                                                                                                                                                     | at Light block by object, I <sub>OL</sub> =16mA | —                     | —    | 0.4  |       |       |
| High Level Output Voltage   |         | V <sub>OH</sub>  | KI1248                                                                                                                                                                                                                                     | at Light block by object                        | V <sub>CC</sub> × 0.9 | —    | —    | V     |       |
|                             |         |                  | KI1249                                                                                                                                                                                                                                     | at Beam detecting                               | V <sub>CC</sub> × 0.9 | —    | —    |       |       |
| Response Time               | R i s e | tr               | <div><div><div>KI1248</div></div><div><div>KI1249</div></div></div> |                                                 |                       | —    | 1.2  | —     | μ sec |
|                             | F a l l | tf               |                                                                                                                                                                                                                                            |                                                 |                       | —    | 0.05 | —     |       |

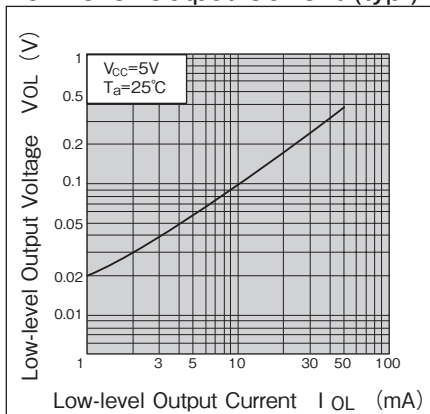
# KI1248/1249

Note: Operation never exceeds each value of Absolute Maximum Ratings.

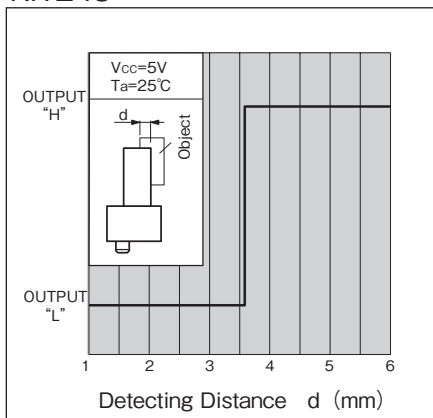
Low-level Output Current vs. Ambient Temperature



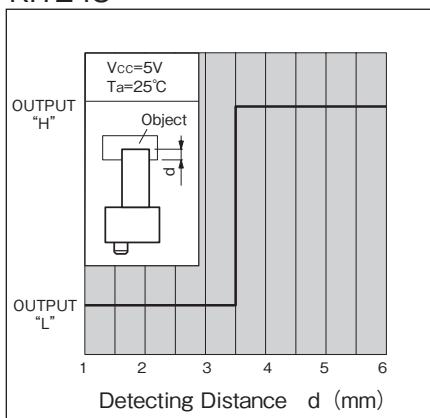
Low-level Output Voltage vs. Low-level Output Current (typ.)



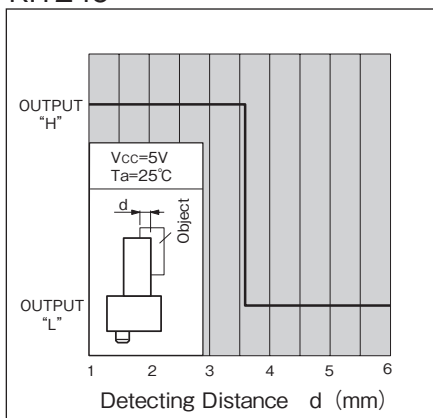
Detecting Position 1 (typ.)  
KI1248



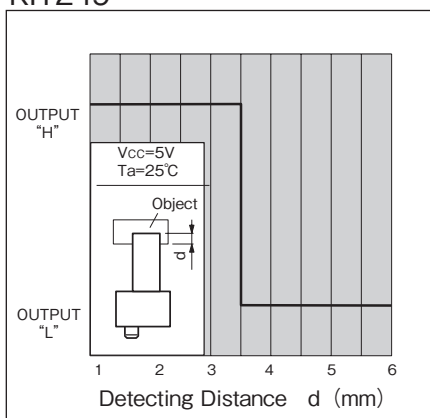
Detecting Position 2 (typ.)  
KI1248



Detecting Position 1 (typ.)  
KI1249



Detecting Position 2 (typ.)  
KI1249



- A Custom designed package is available on request.
- Specification are subject to change without notice.

04.09-1A

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