

# KI669,670

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## Wide Gap • Slit less Type

Dimension (Unit:mm)

### Description

Model **KI669/670** consist of an Infra Red LED and a High sensitive Photo IC(Digital Output).

### Feature

- Built-in amplifier, Open collector output type.
- For paper dust: Visible Light cut resin.
- Wide gap-8mm, Deep ditch-14mm.
- Custom model in Beam axis is available in range of 4mm.
- The other model of Pull-up Resistor type;
  - Low level at emitting ∙ ∙ **KI659**
  - High level at emitting ∙ ∙ **KI660**

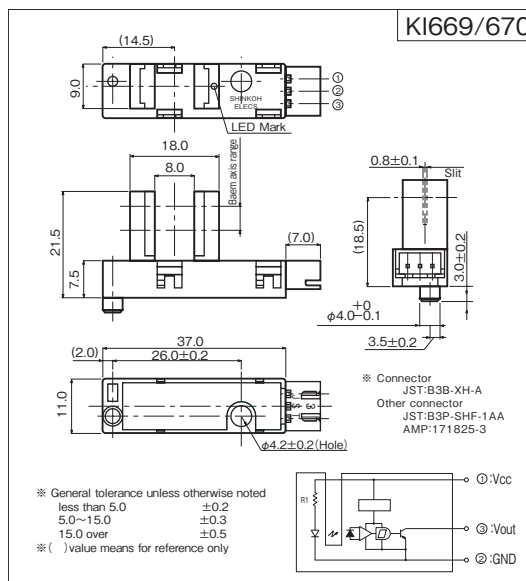
### Application

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

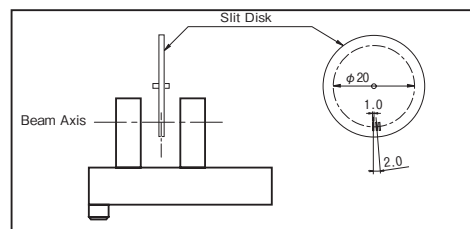
### Absolute Maximum Ratings

[Ta=25°C Unless otherwise noted]

Item	Symbol	Rating	Units
Supply Voltage	V <sub>CC</sub>	6	V
Low Level Output Current	I <sub>OL</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>KI669</b>	at Beam detecting Low
<b>KI670</b>	at Beam detecting High



Note: Each value shown at rotating of slit disk.  
 Don't output as DC.

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

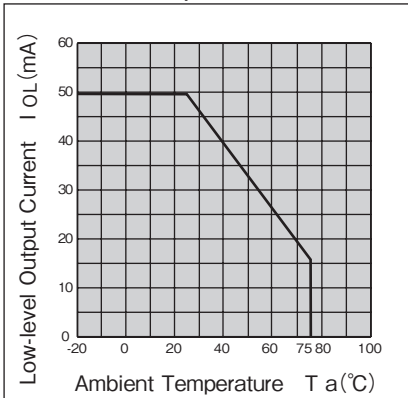
Item	Symbol	Condition	min.	typ.	max.	Units
Supply Voltage	V <sub>CC</sub>		4.5	5.0	5.5	V
Low Level Supply Current	I <sub>CCL</sub>	<b>KI669</b> at Beam detecting	—	—	25	mA
		<b>KI670</b> at Light block by object	—	—	25	
High Level Supply Current	I <sub>CCH</sub>	<b>KI669</b> at Light block by object	—	—	25	mA
		<b>KI670</b> at Beam detecting	—	—	25	
Low Level Output Voltage	V <sub>OL</sub>	<b>KI669</b> at Beam detecting, I <sub>OL</sub> =16mA	—	—	0.4	V
		<b>KI670</b> at Light block by object, I <sub>OL</sub> =16mA	—	—	0.4	
High Level Output Voltage	V <sub>OH</sub>	<b>KI669</b> at Light block by object, R <sub>L</sub> =47k Ω	V <sub>CC</sub> × 0.9	—	—	V
		<b>KI670</b> at Beam detecting, R <sub>L</sub> =47k Ω	V <sub>CC</sub> × 0.9	—	—	
Frequency	f		3000	—	—	Hz
Response Time	Rise	t <sub>r</sub>	—	0.86	—	μ sec
	Fall	t <sub>f</sub>	—	0.03	—	

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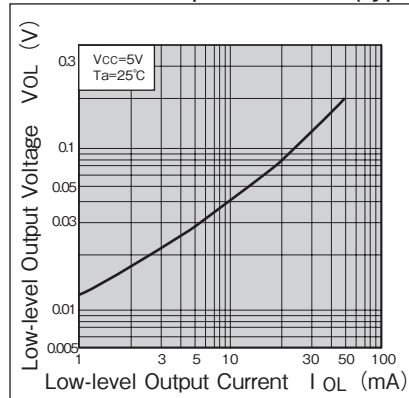
Note: Operation never exceeds each value of Absolute Maximum Ratings.

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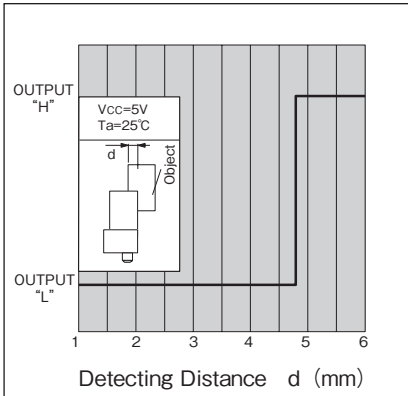
Low-level Output Current vs. Ambient Temperature



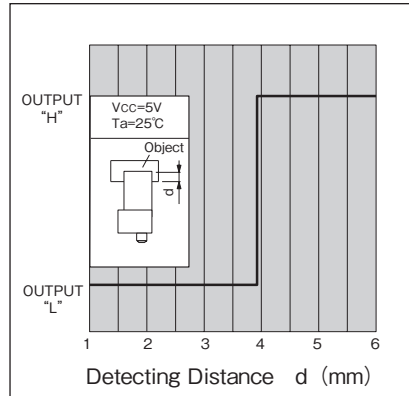
Low-level Output Voltage vs. Low-level Output Current (typ.)



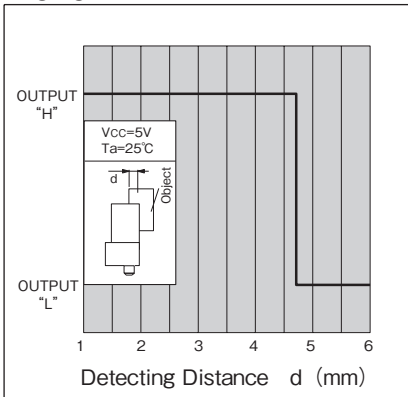
Detecting Position 1 (typ.)  
KI669



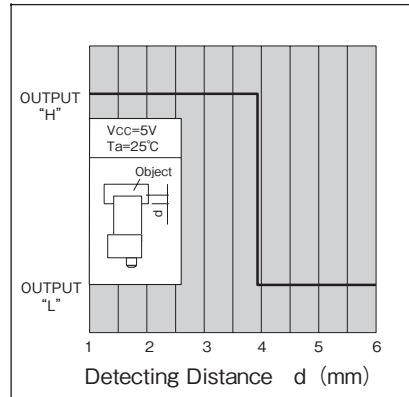
Detecting Position 2 (typ.)  
KI669



Detecting Position 1 (typ.)  
KI670



Detecting Position 2 (typ.)  
KI670



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

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