

## Photo Interrupter

# KIT1001A

### Description

The KIT1001A is a high performance transmissive type photointerrupter, combines high-output GaAs IRED with high sensitive phototransistor.

### Features

- PWB direct mount type.
- Ultra – compact.
- 1.0mm gap.
- RoHS compliant.



### Applications

- Cameras.
- Copiers.
- Printers.
- Ticket vending machines.

### Absolute Maximum Ratings (T<sub>a</sub>=25°C, Unless otherwise specified)

Characteristic		Symbol	Ratings	Unit
Input	Power Dissipation	P <sub>D</sub>	75	mW
	Forward Current	I <sub>F</sub>	50	mA
	Reverse Voltage	V <sub>R</sub>	5	V
	Peak Forward Current <sup>*1</sup>	I <sub>FP</sub>	0.5	A
Output	Power Dissipation	P <sub>D</sub>	75	mW
	Collector Current	I <sub>C</sub>	20	mA
	Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
	Emitter-Collector Voltage	V <sub>ECO</sub>	5	V
Operating Temperature <sup>*2</sup>		T <sub>opr</sub>	-20 ~ +85	°C
Storage Temperature <sup>*2</sup>		T <sub>stg</sub>	-30 ~ +85	°C
Soldering Temperature <sup>*3</sup>		T <sub>sol</sub>	260	°C

\*1 : Pulse width (tw) ≤ 100μs, Period (T) = 10msec.

\*2 : No icebond or dew.

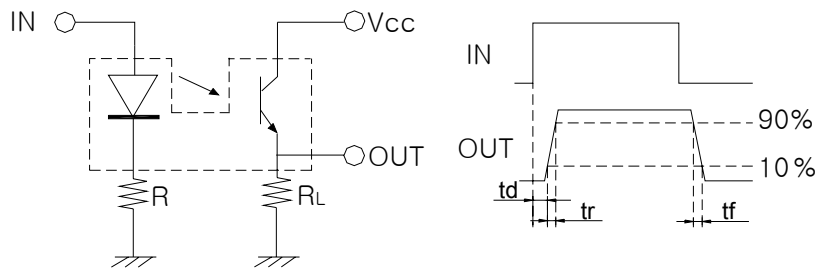
\*3 : The soldering should be 1mm away from bottom of the case t=within 5sec

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## Electrical Characteristics (T<sub>a</sub>=25°C)

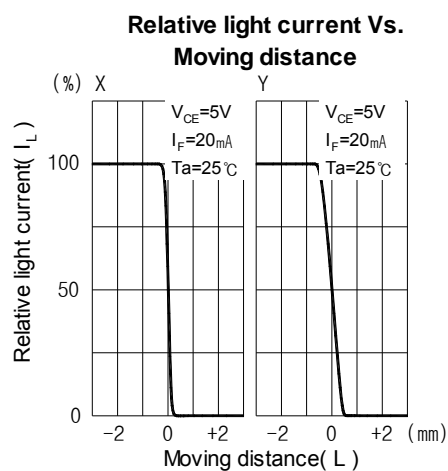
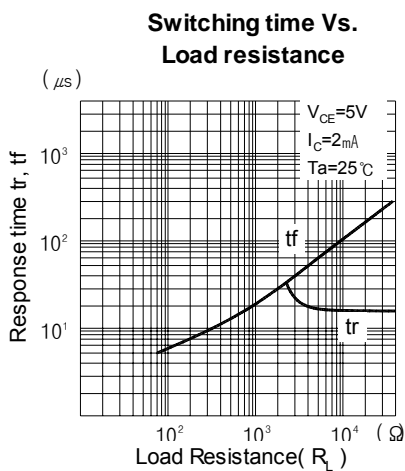
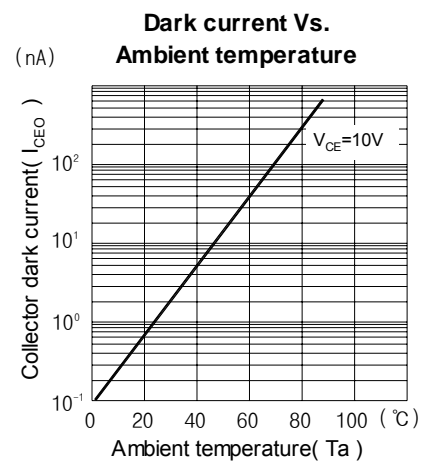
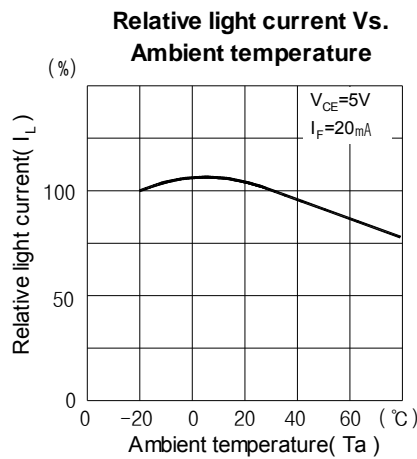
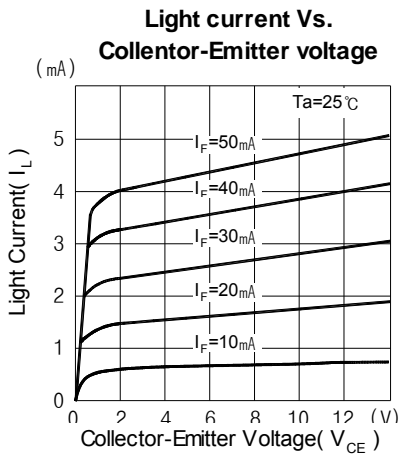
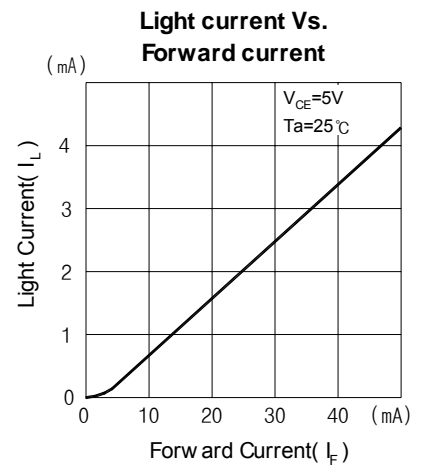
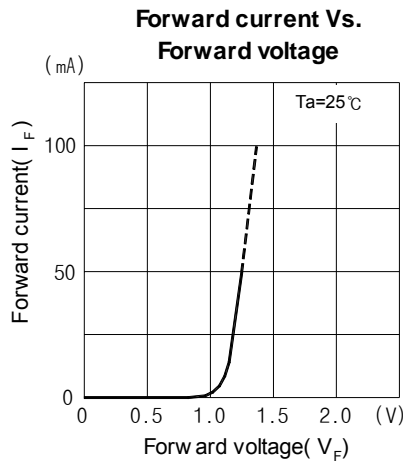
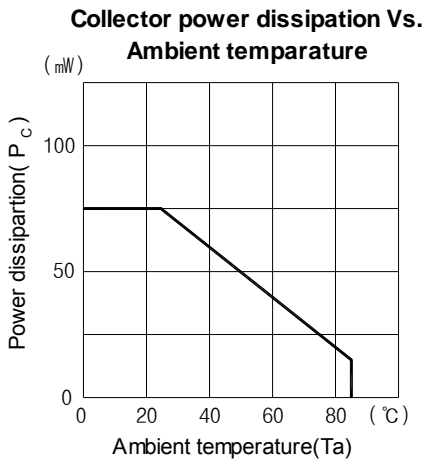
Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	-	1.2	2.0	V
	Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	-	940	-	nm
	Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	uA
Output	Dark Current	I <sub>CEO</sub>	V <sub>CE</sub> =10V, E=0lux	-	1	100	nA
	Peak Wavelength	λ <sub>p</sub>	-	-	880	-	nm
Transfer Characteristics	Collector Current	I <sub>C1</sub>	V <sub>CE</sub> =5.0V, I <sub>F</sub> =10mA (Non shading)	0.5	-	-	mA
		I <sub>C2</sub>	V <sub>CE</sub> =5.0V, I <sub>F</sub> =5mA (Non shading)	0.2	-	-	mA
	Leakage current	I <sub>CEOD</sub>	I <sub>F</sub> =10mA, V <sub>CE</sub> =5V Shading	-	0.5	10	uA
	C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =0.5mA, I <sub>F</sub> =20mA	-	0.15	0.4	V
Response Time	Rise Time	t <sub>r</sub>	V <sub>CC</sub> =5.0V, I <sub>C</sub> =2mA RL=100Ω	-	4	-	usec
	Fall Time	t <sub>f</sub>		-	5	-	usec

- Circuit for Measuring Response Time

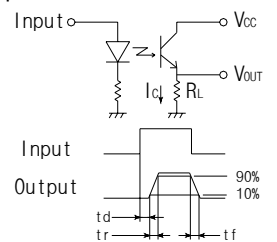


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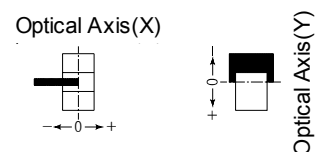
## Electrical and optical characteristic curves



Response time measurement circuit

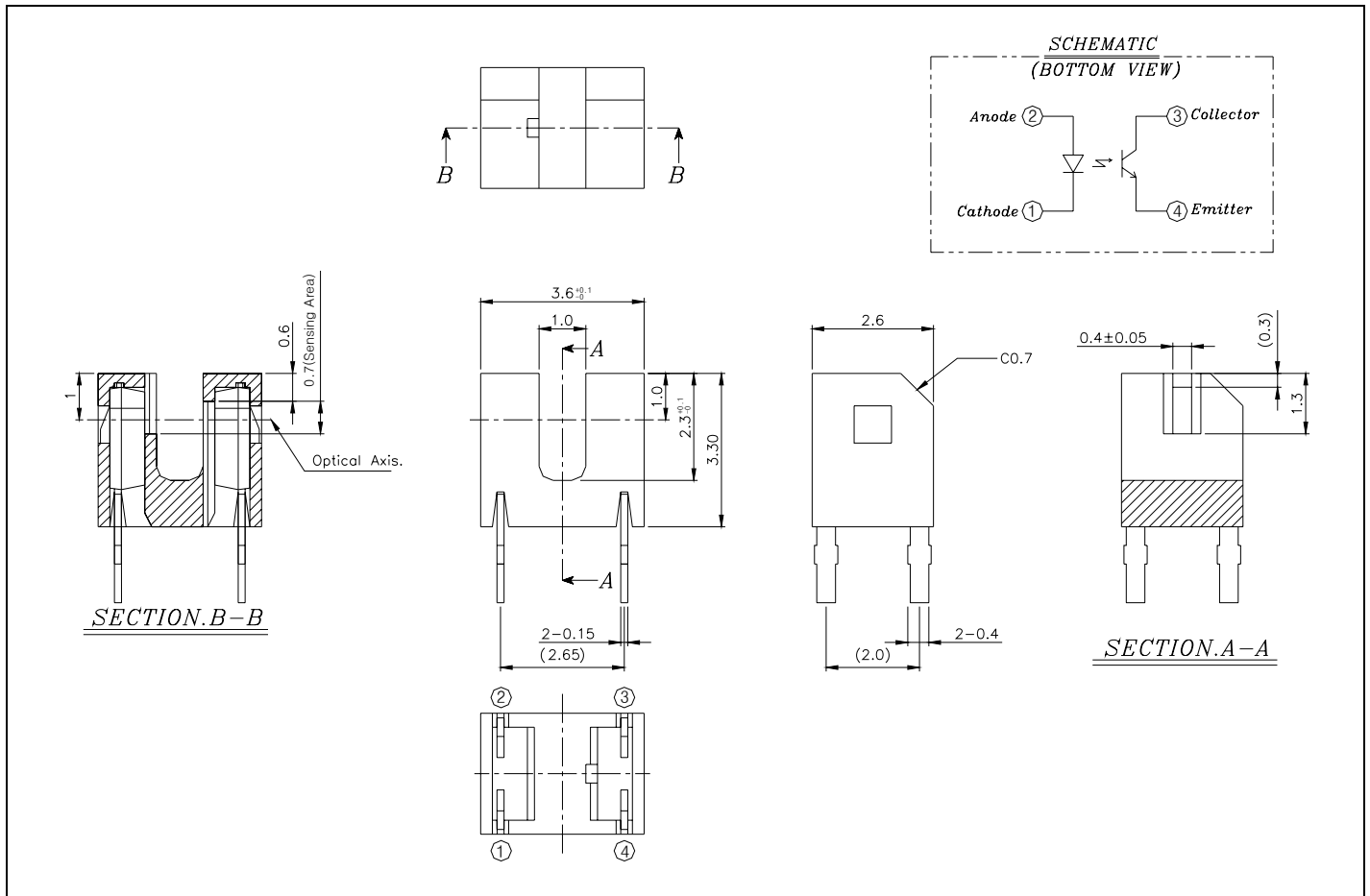


Method of measuring position detection characteristic



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## Package Outline Dimensions (Unit : mm)



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