

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_a=25°C, Unless otherwise specified)

Characteristic		Symbol	Ratings	Unit
Input	Power Dissipation	P _D	75	mW
	Forward Current	I _F	50	mA
	Reverse Voltage	V _R	5	V
	Peak Forward Current ^{*1}	I _{FP}	0.5	A
Output	Power Dissipation	P _D	75	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	V _{CEO}	30	V
	Emitter-Collector Voltage	V _{ECO}	5	V
Operating Temperature ^{*2}		T _{opr}	-20 ~ +85	°C
Storage Temperature ^{*2}		T _{stg}	-30 ~ +85	°C
Soldering Temperature ^{*3}		T _{sol}	260	°C

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

*2 : No icebond or dew.

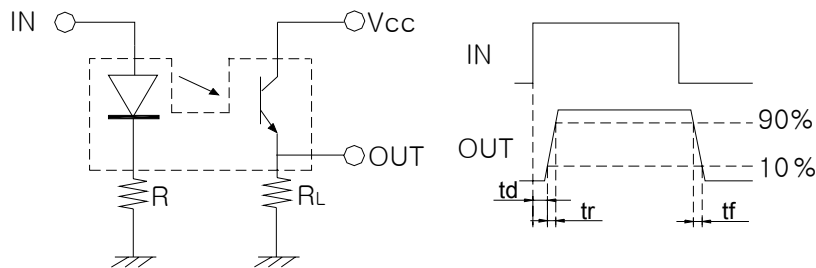
*3 : The soldering should be 1mm away from bottom of the case t=within 5sec

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Electrical Characteristics (T_a=25°C)

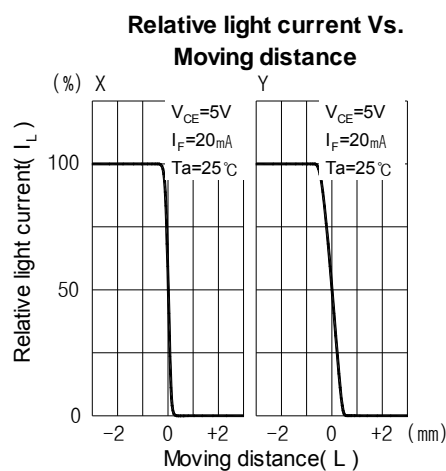
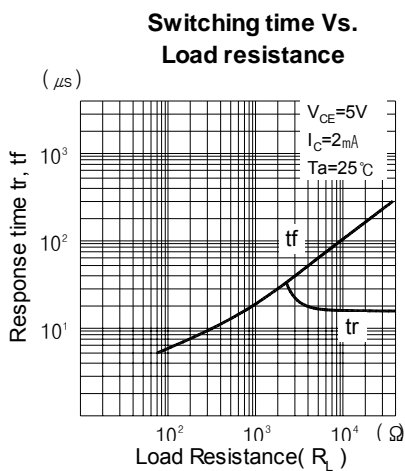
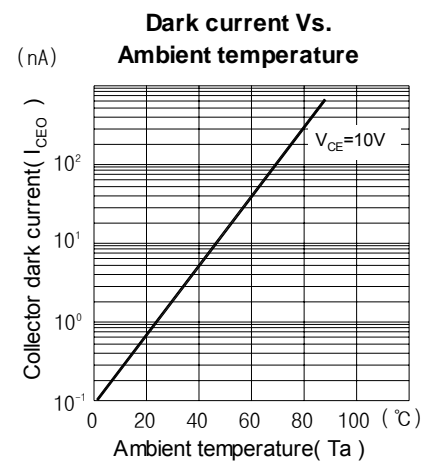
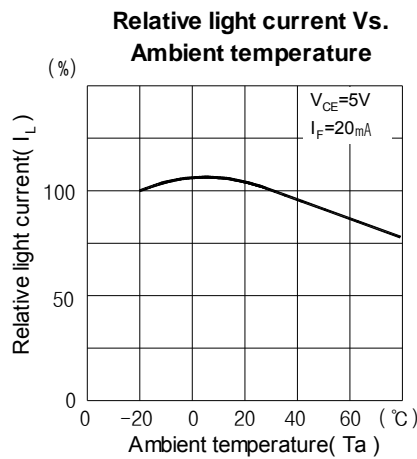
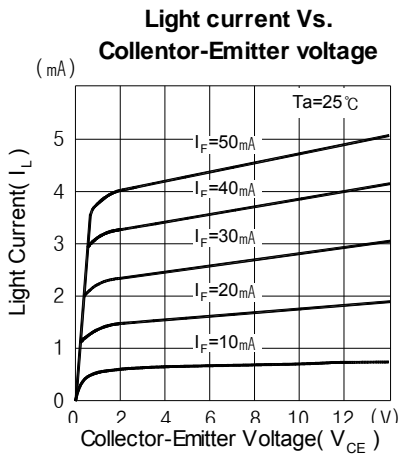
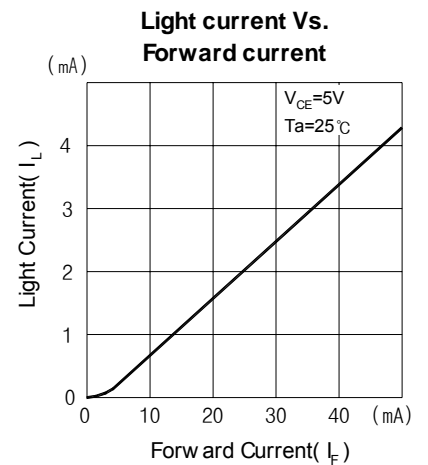
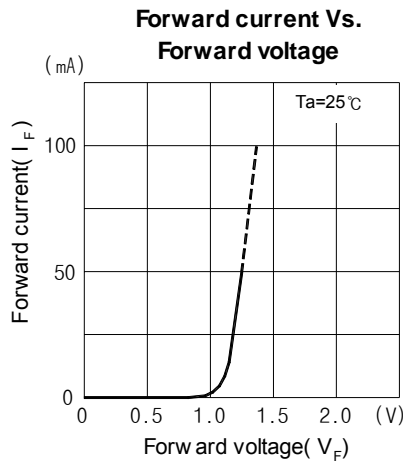
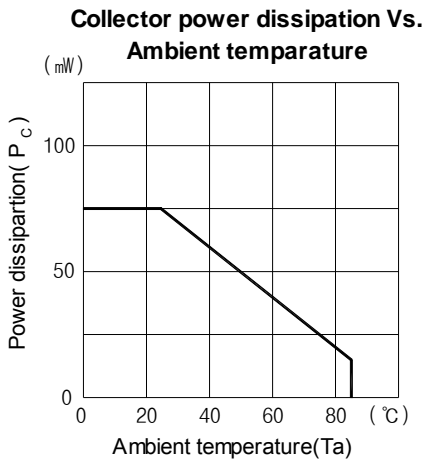
Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F =20mA	-	1.2	2.0	V
	Peak Wavelength	λ _p	I _F =20mA	-	940	-	nm
	Reverse Current	I _R	V _R =5V	-	-	10	uA
Output	Dark Current	I _{CEO}	V _{CE} =10V, E=0lux	-	1	100	nA
	Peak Wavelength	λ _p	-	-	880	-	nm
Transfer Characteristics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

- Circuit for Measuring Response Time

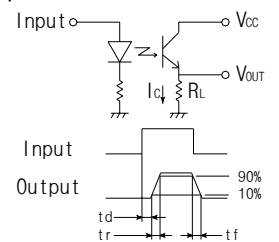


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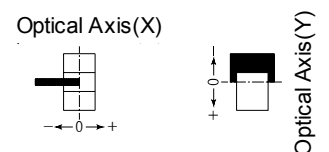
Electrical and optical characteristic curves



Response time measurement circuit

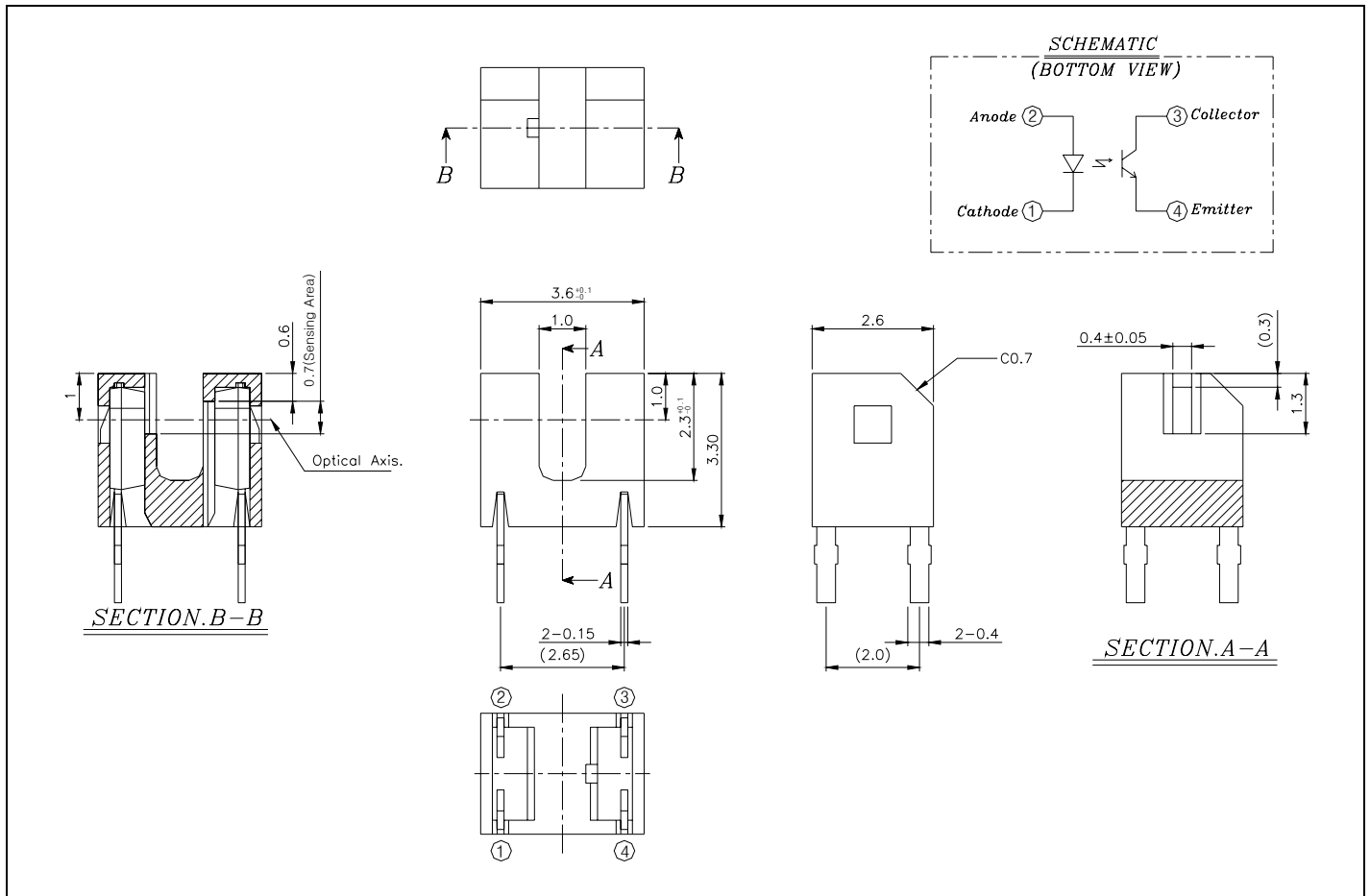


Method of measuring position detection characteristic



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Package Outline Dimensions(Unit : mm)



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