

**Description**

The KPS1002C photo switch is composed of a modulated infrared emitting diode at the light-emitting side and a modulated photo IC (in which a photo diode, signal processing circuit, constant voltage circuit and modulation circuit are integrated) at the light receiving side.

**Features**

- Snap in mount
- Position pin to prevent mis-alignment
- Medium focal distance
- RoHS compliant

**Applications**

- Printers
- PPC
- Fax

**Absolute Maximum Ratings** ( $T_a=25^{\circ}\text{C}$ , Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Supply voltage	$V_{cc}$	-0.5 ~ 5.5	V
Output voltage *1	$V_O$	5.5	V
Low level output current *2	$I_{OL}$	30	mA
Power dissipation	$P_O$	30	mW
Operating temperature *3,*4	$T_{opr}$	-10 ~ 70	$^{\circ}\text{C}$
Storage Temperature *3,*4	$T_{stg}$	-20 ~ 80	$^{\circ}\text{C}$

\*1 : Voltage between collector and emitter of the output transistor.

\*2 : Output transistor collector current.

\*3 : No freezing / dewing.

\*4 : Connect/Disconnect connectors at ambient temperature.

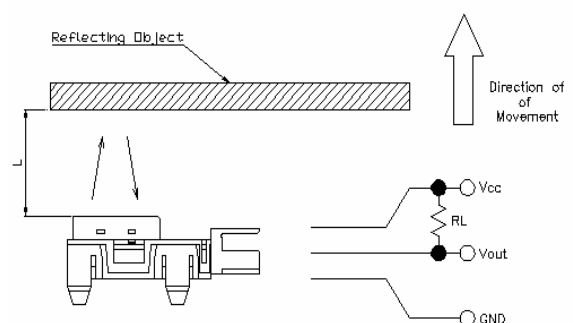
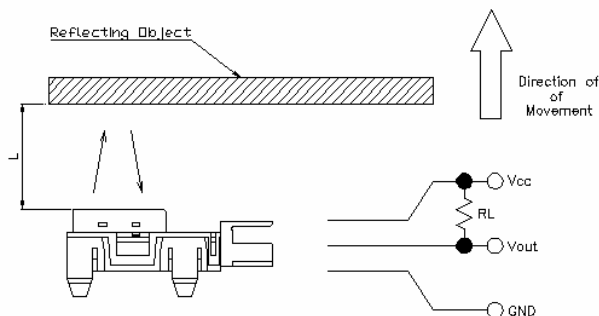
The contents of this data sheet are subject to change without advance notice for the purpose of improvement.  
When using this product, would you please refer to the latest specifications.

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

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Operating supply voltage		V <sub>CC</sub>	-	3.05	-	5.25	V	
Low level output voltage		V <sub>OL</sub>	V <sub>CC</sub> =5V, I <sub>OL</sub> =10 mA, Detecting	-	-	0.4	V	
High level output voltage		V <sub>OH</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1 kΩ, Undetecting	4.5	-	-	V	
Low level current consumption		I <sub>CCL</sub>	V <sub>CC</sub> =5V, Detecting	-	12	35	mA	
High level current consumption		I <sub>CCH</sub>	V <sub>CC</sub> =5V, Undetecting	-	12	35	mA	
Minimum detection distance *5		L <sub>DS</sub>	V <sub>CC</sub> =5V R <sub>L</sub> =1 kΩ	OD:0.05	-	-	7	mm
				OD:1.16	-	-	10	mm
Maximum detection distance *6		L <sub>DL</sub>		OD:0.05	25	-	-	mm
				OD:1.16	16	-	-	mm
Non detection distance *5		L <sub>NS</sub>		OD:0.05	-	-	50	mm
Non detection area *7		L <sub>NA</sub>		POM(White)	-	-	Φ10	mm
Response time	L→H propagation	t <sub>PLH</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1 kΩ *8	-	-	0.5	ms	
	H→L propagation	t <sub>PHL</sub>		-	-	0.5	ms	
Disturbance light *9		Ev	V <sub>CC</sub> =5V, R <sub>L</sub> =1 kΩ	3000	-	-	Lx	

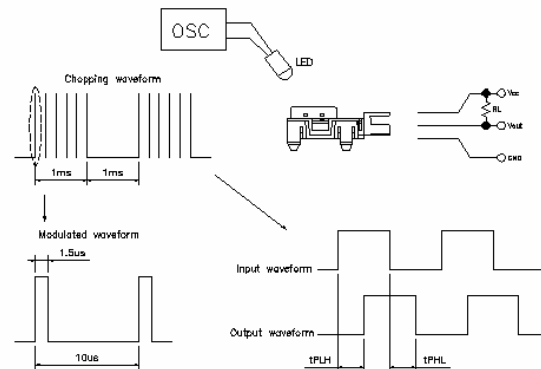
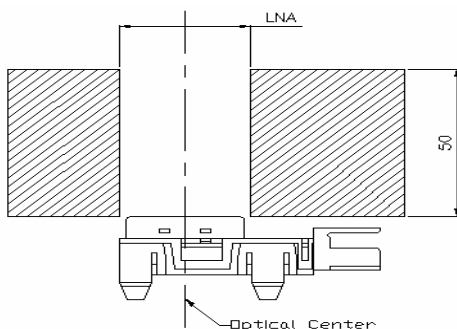
\*5 : Minimum detection distance and non-detection distance measuring method.

\*6 : Maximum detection distance measuring method.



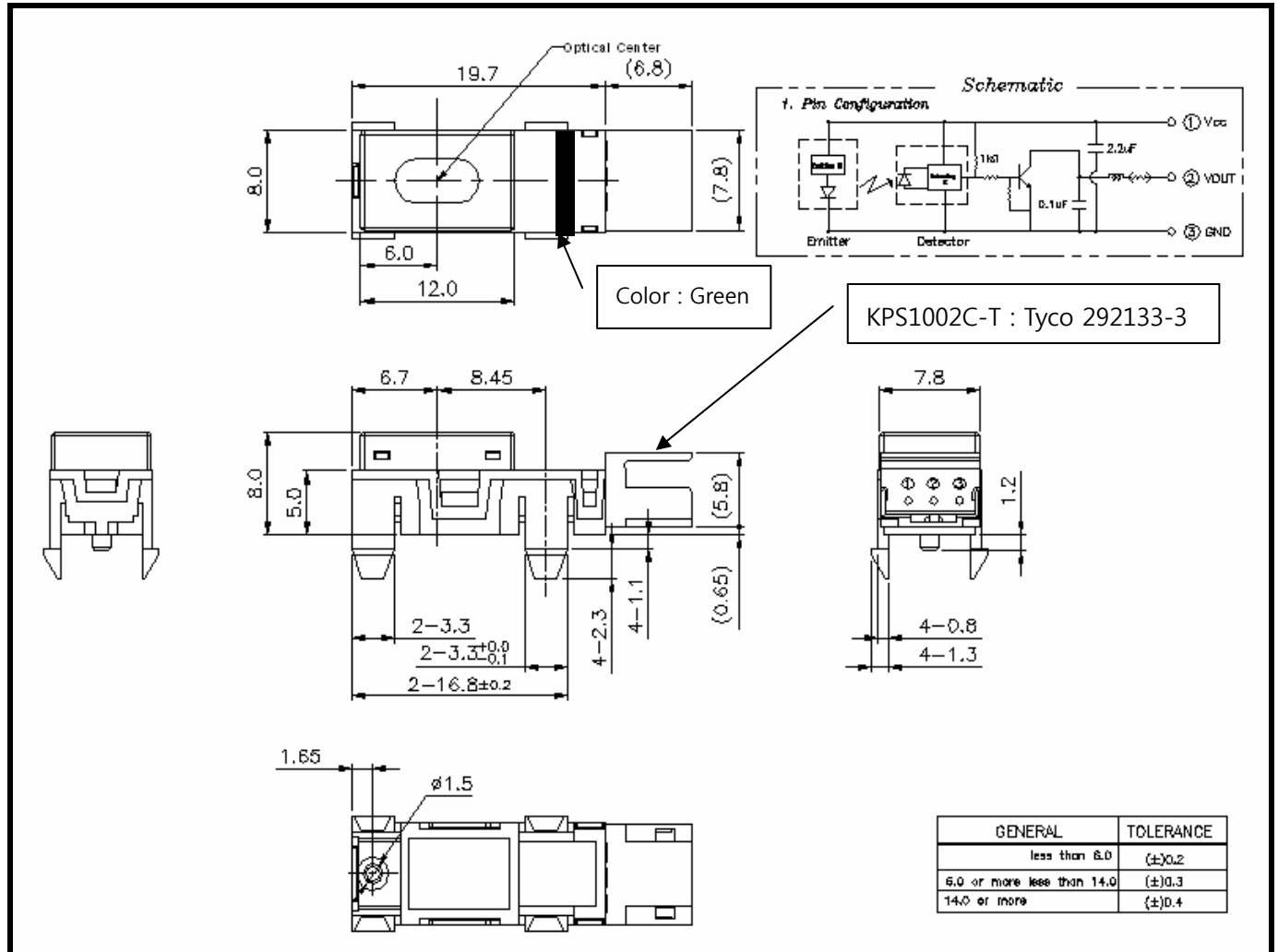
\*7 : Non detecting area.

\*8 : Response time measuring method.



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## Package Outline Dimensions



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