### Paper Sensor

**KPS1003C-**□

#### **Description**

The KPS1003C 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
- Short focal distance
- RoHS compliant

## **Applications**

- Printers
- PPC
- Fax

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

Characteristic	Symbol	Ratings	Unit
Supply voltage	V <sub>cc</sub>	-0.5 ~ 5.5	V
Output voltage +1	Vo	5.5	V
Low level output current +2	I <sub>OL</sub>	30	mA
Power dissipation	Po	30	mW
Operating temperature *3,*4	T <sub>opr</sub>	-10 ~ 70	℃
Storage Temperature *3,*4	T <sub>stg</sub>	-20 ~ 80	℃

<sup>\*1 :</sup> Voltage between collector and emitter of the output transistor.

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.

<sup>\*2 :</sup> Output transistor collector current.

<sup>\*3:</sup> No freezing / dewing.

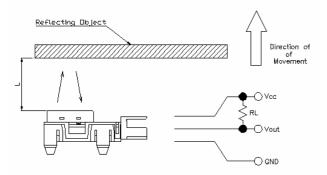
<sup>\*4 :</sup> Connect/Disconnect connectors at ambient temperature.

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

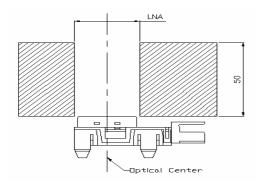
Cha	aracteristic	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Operatin	g supply voltage	V <sub>CC</sub>	-		4.75	-	5.25	V
Low leve	el output voltage	V <sub>OL</sub>	V <sub>CC</sub> =5V, I <sub>OL</sub> =10 mA, Detecting		-	-	0.4	V
High leve	el output voltage	V <sub>OH</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1 kΩ, Undetecting		4.5	ı	-	V
Low level co	urrent consumption	I <sub>CCL</sub>	V <sub>CC</sub> =5V, Detecting		ı	12	35	mA
High level c	urrent consumption	I <sub>CCH</sub>	V <sub>CC</sub> =5V, Undetecting		ı	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	-	-	1	mm
				OD:1.16	-	-	3	mm
Maximum detection distance *6		L <sub>DL</sub>		OD:0.05	10	-	-	mm
				OD:1.16	7	-	-	mm
Non detection distance *5		L <sub>NS</sub>		OD:0.05	-	-	27	mm
Non detection area *7		L <sub>NA</sub>		POM(White)	ı	ı	Ф10	mm
Response time	L→H propagation	t <sub>PLH</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1 kΩ *8		ı	ı	0.5	ms
	H→L propagation	t <sub>PHL</sub>			-	-	0.5	ms
Disturbance light *9		Ev	$V_{CC}$ =5 $V$ , $R_L$ =1 $k\Omega$		3000	-	-	Lx

<sup>\*10 :</sup> OHP sheet : PPC-E

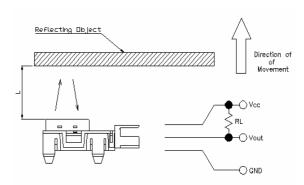
\*5 : Minimum detection distance and non-detection distance measuring method.



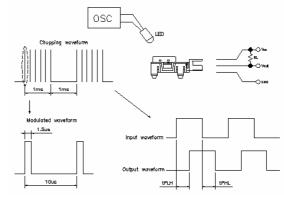
\*7: Non detecting area.



\*6 : Maximum detection distance measuring method.

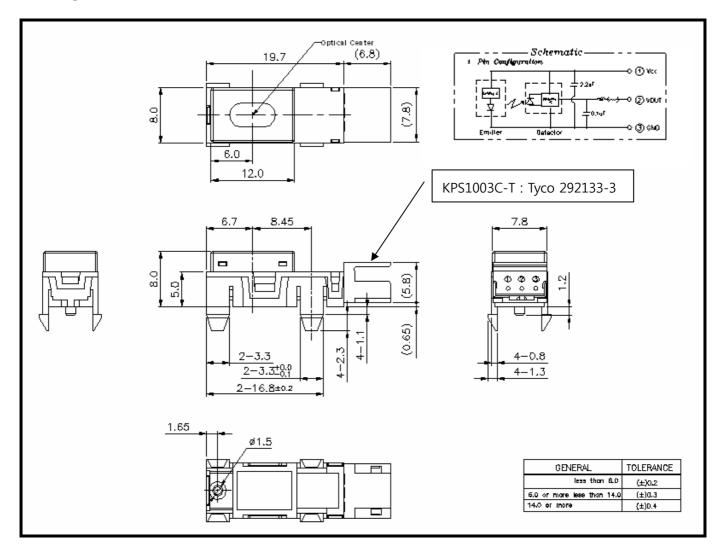


\*8: Response time measuring method.



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# **Package Outline Dimensions**



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