



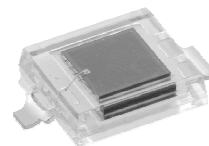
LIGHTING FOREVER

## Surface - Mount Ambient Light Sensor

**ALS - PD70-01C/TR7**

### Features

- Close to the human eye's response
- Low sensitivity variation across various light sources
- Operating temperature performance, -40°C to 85°C
- Wide supply voltage range, 2.5V to 5.5V
- Size : 4.4mm(L)\*3.9mm(W)\*1.2mm(H)
- RoHS compliant and Pb Free package



### Description

ALS-PD70-01C/TR7 Ambient Light Sensor Device, consisting of a photodiode in miniature SMD package, which is molded in water clear with flat top. It is a good effective solution to the power saving of display backlighting of mobile appliances and outdoor application. Due to the high rejection ration of infrared radiation, the spectral response of the ambient light sensor is close to that of human eyes.

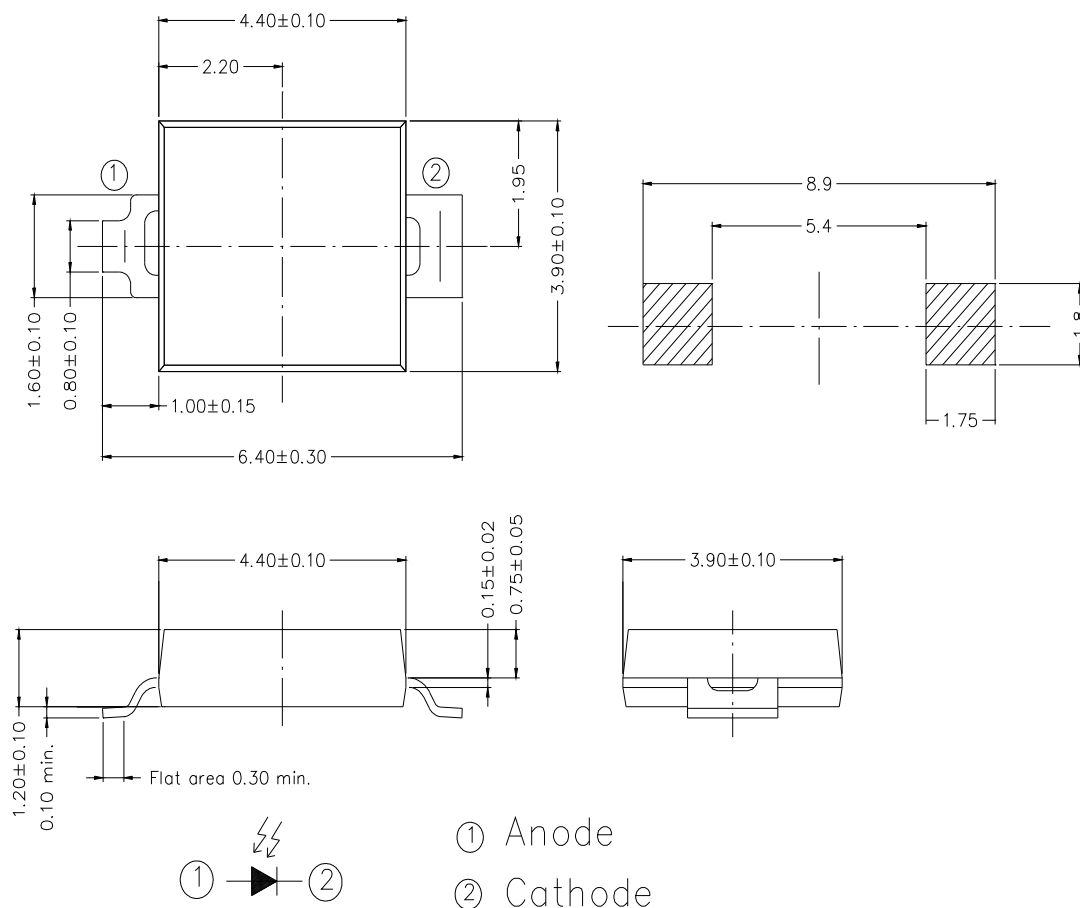
### Applications

- Detection of ambient light for controlling the backlighting of TFT LCD display
- Automatic residential and commercial lighting management
- Automatic contrast enhancement for electronic signboard
- Ambient light monitoring device for daylight and artificial light

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## Package Dimensions



**Unit: mm**

**Tolerances:  $\pm 0.1$ mm**



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Ambient Light Sensor**

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**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Condition	Rating	Units
Reverse Breakdown Voltage	$V_{BR}$	$I_R = 100\mu A$	35	V
Forward Voltage	$V_F$	$I_F = 10mA$	0.5~1.3	V
Operating Temperature	$T_{opr}$	---	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	---	-40 ~ +85	°C
Soldering Temperature	$T_{sol}$	---	260	°C

**Recommended Operating Conditions (Ta=25°C)**

Parameter	Symbol	Min.	Max.	Unit
Operating Temperature	$T_{opr}$	-40	+85	°C

**Electrical and Optical Characteristics (Ta=25°C)**

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Test Condition
Dark Current	$I_D$	---	2	10	nA	$V_R=5V$ , $E_v=0\text{Lux}$
Light Current	$I_{L1}$	0.5	1.1	---	uA	$V_R=5V$ , $E_v=100\text{Lx}$ <a href="#">[Note1]</a>
	$I_{L2}$	4.5	9.5	---	uA	$V_R=5V$ , $E_v=1000\text{Lx}$ <a href="#">[Note1]</a>
	$I_{L3}$	6	12	---	uA	$V_R=5V$ , $E_v=1000\text{Lx}$ <a href="#">[Note2]</a>
Photocurrent Ratio	$I_{L3}/I_{L2}$	---	1.26	---		$V_R=5V$ , $E_v=1000\text{Lx}$
Peak Sensitivity Wavelength	$\lambda_p$	---	630	---	nm	
Sensitivity Wavelength Range	$\lambda$	390	---	700	nm	

**Note:**

[1] : White Fluorescent light (Color Temperature = 6500K) is used as light source.

[2] : Illuminance by CIE standard illuminant-A / 2856K, incandescent lamp

## Typical Electrical and Optical Characteristics Curves

Fig.1 Light Current vs. Illuminance

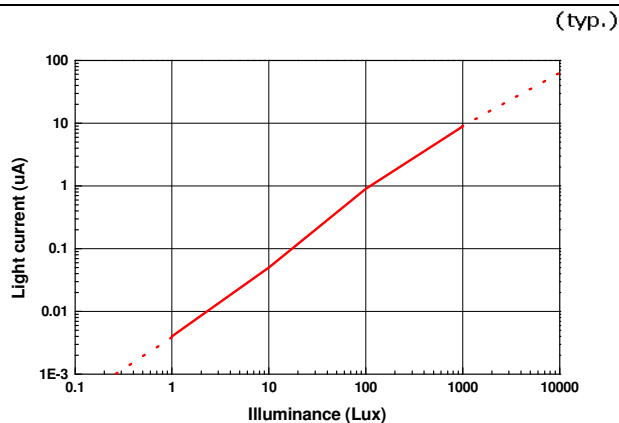


Fig.2 Output Voltage vs. Illuminance

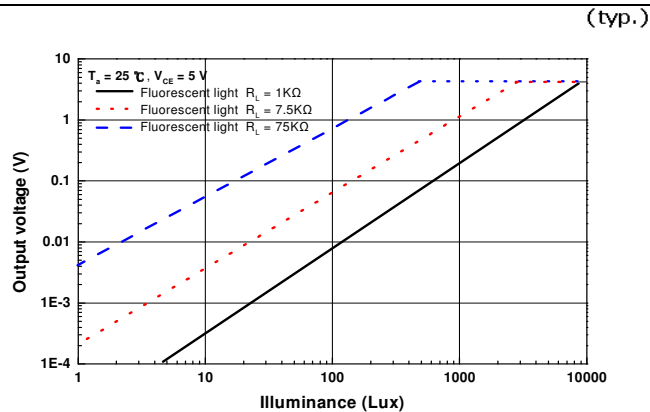


Fig.3 Spectral Response

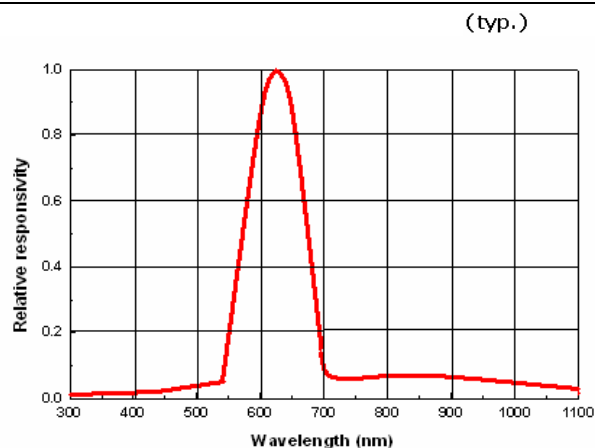


Fig.4 Light current vs. Supply Voltage

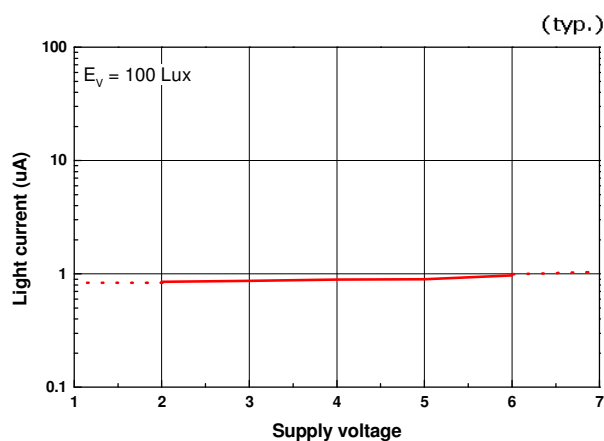


Fig.5 Light Current vs. Temperature

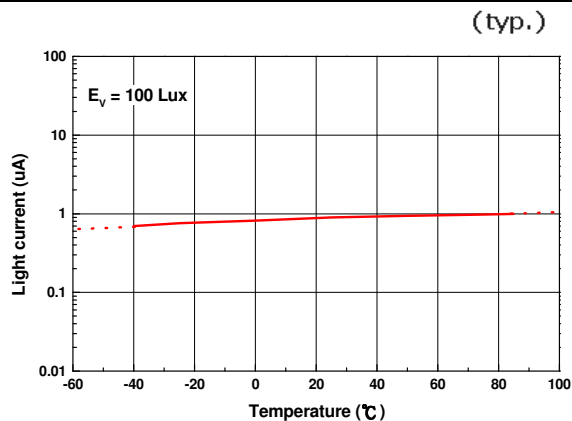
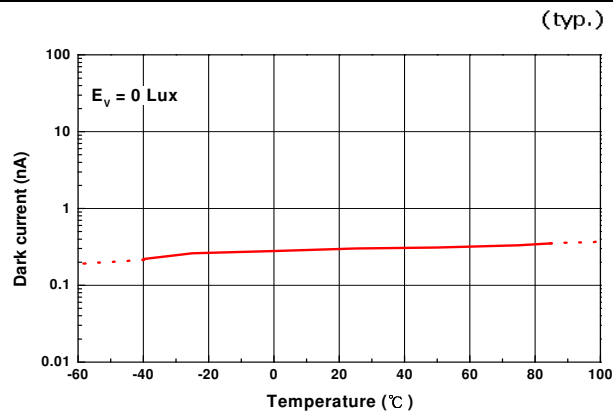


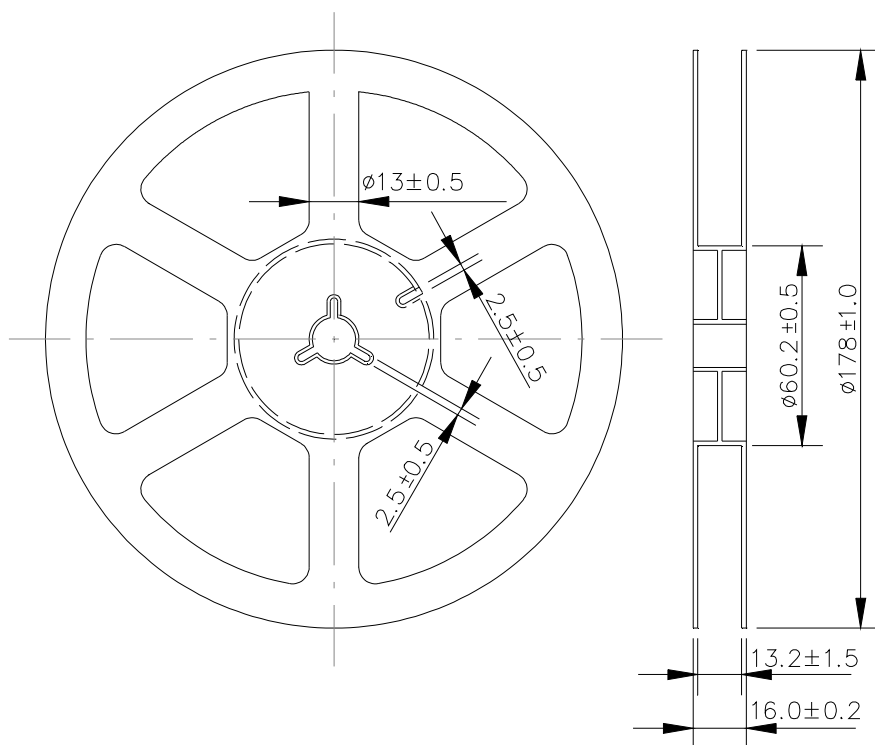
Fig.6 Dark current vs. Temperature



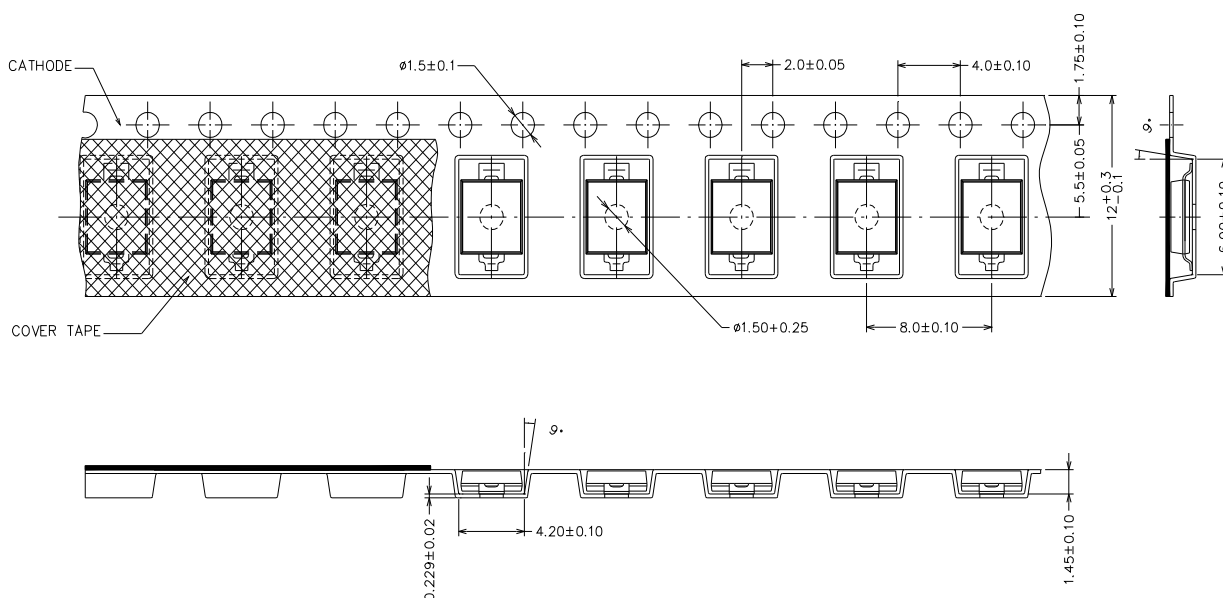
# Surface - Mount Ambient Light Sensor

**ALS - PD70-01C/TR7**

## Package Dimensions



## Loaded Quantity Per Reel 1000PCS/Reel





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## Surface - Mount Ambient Light Sensor

**ALS - PD70-01C/TR7**

### Packing Quantity Specification

1000 Pcs/Bag

### Label Form Specification

EVERLIGHT	
CPN:	
P/N:	
	RoHS
PD70-01C/TR7	
QTY:	CAT:
	HUE:
LOT NO:	REF:
MADE IN CHINA	

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

MADE IN CHINA: Production Place



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## Surface - Mount Ambient Light Sensor

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### Note:

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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