

## Ambient Light Sensor – Surface Mount 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
- Compliance with EU REACH
- Compliance Halogen Free (Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)

### Description

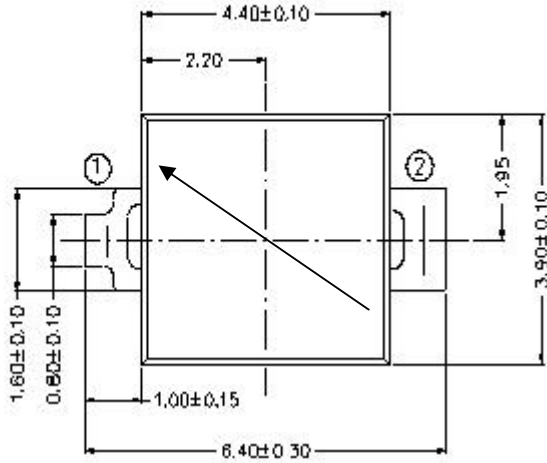
ALS-PD70-01C/TR7 Ambient Light Sensor Device, consisting of a photodiode in miniature SMD package, which is molded in water clear with flat top. It is a good effective solution to the power saving of display backlighting of mobile appliances, such as the mobile phones and PDAs. Due to the high rejection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

### Applications

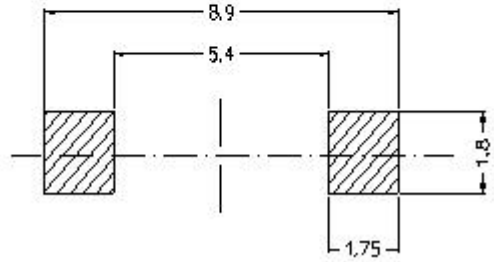
- Detection of ambient light for controlling the backlighting of TFT LCD display
  - Automatic residential and commercial lighting management
  - Automatic contrast enhancement for electronic signboard
  - Ambient light monitoring device for daylight and artificial light

Package Dimensions

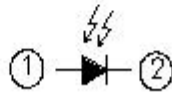
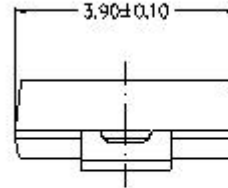
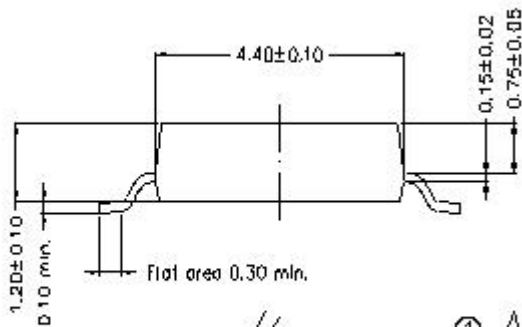
Top View



Recommended Soldering Pattern



Side View



- ① Anode
- ② Cathode

Unit : mm  
Tolerances : ±0.1mm

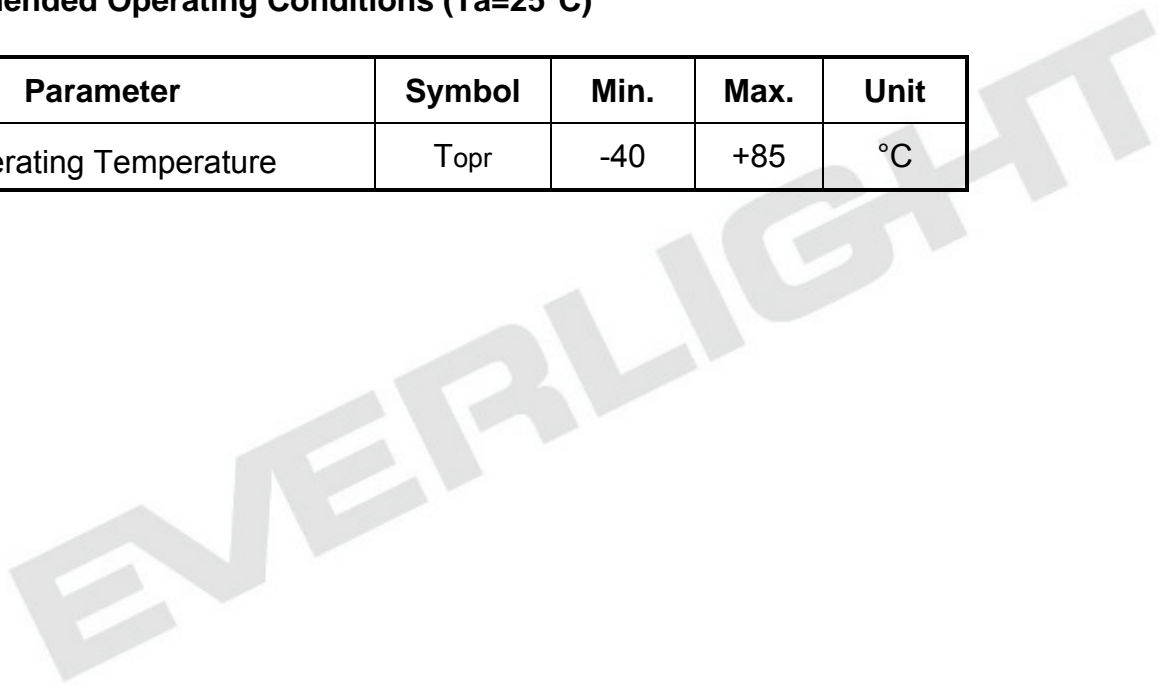
**Absolute Maximum Ratings**

Parameter	Symbol	Symbol	Rating	Unit
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

**Note1:** For detail reflow time and the recommended temperature profile, please refer to page 9.

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

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

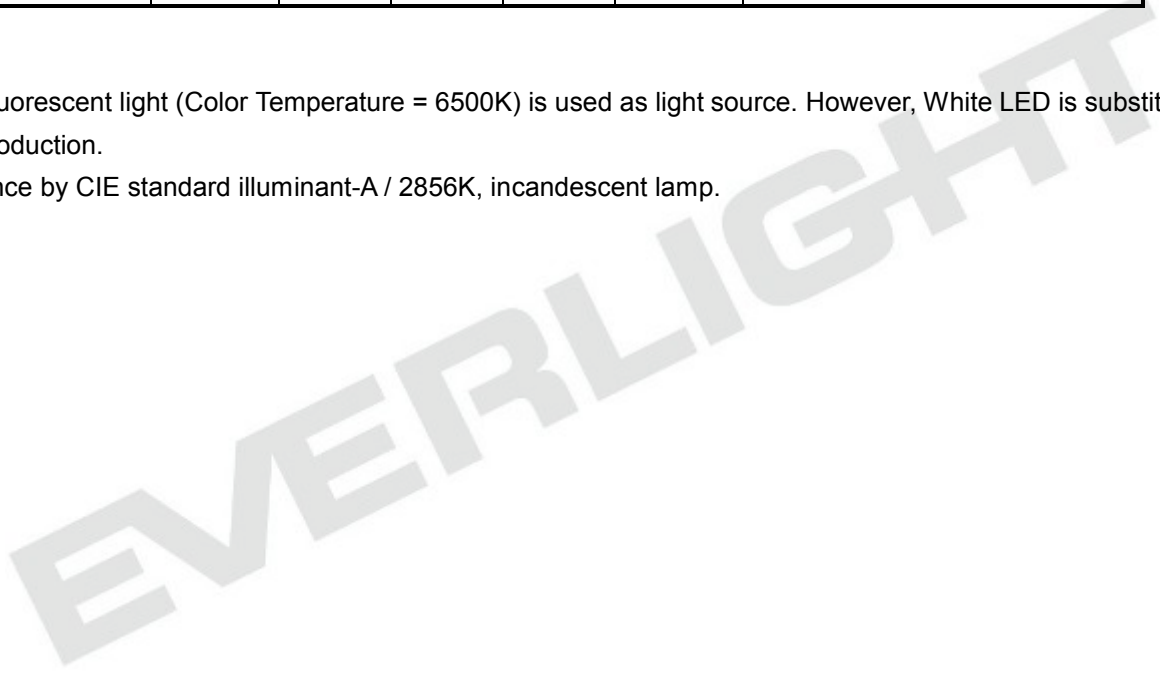


**Electrical and Optical Characteristics (T<sub>a</sub>=25 )**

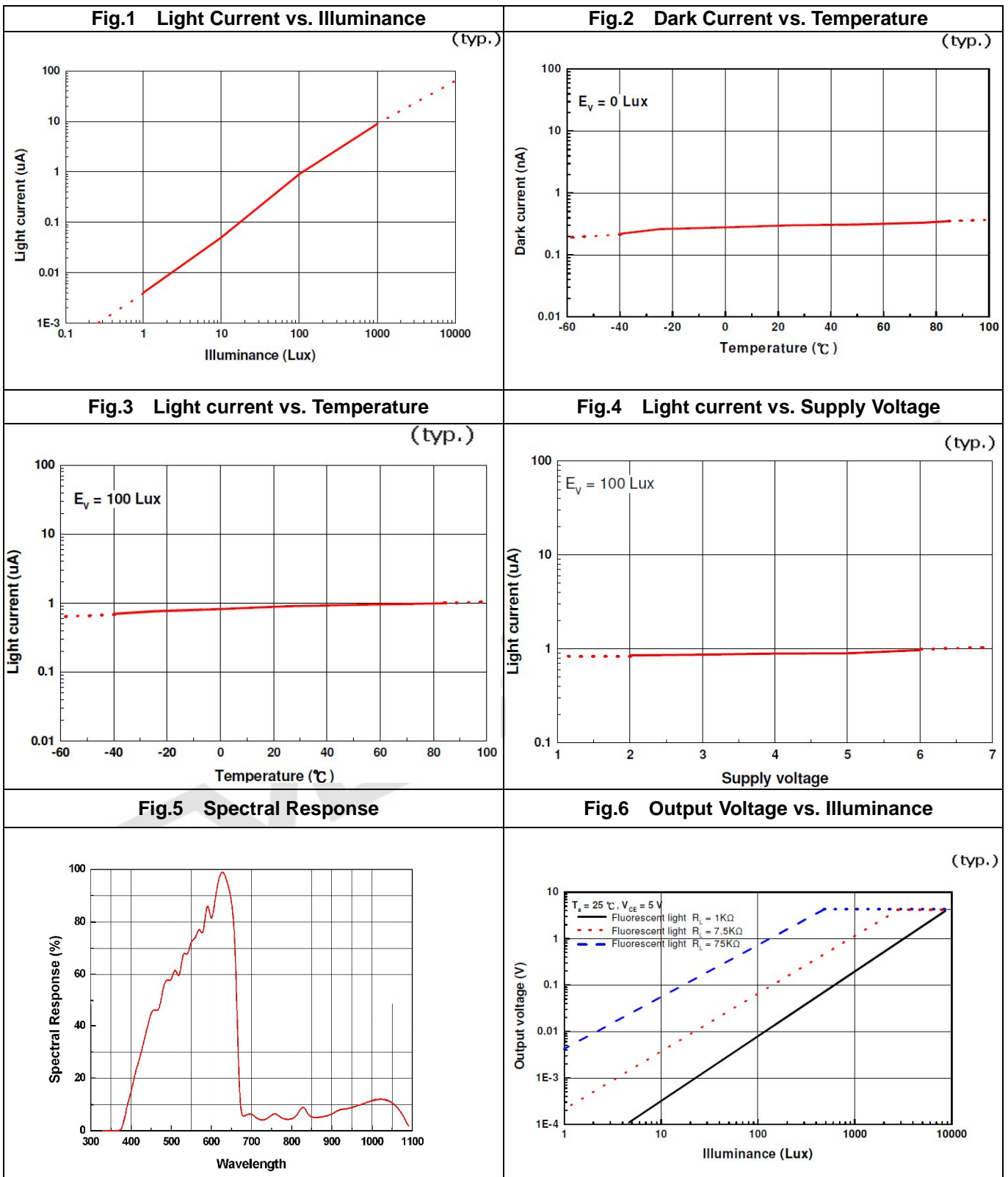
Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Test Condition
Dark Current	I <sub>D</sub>	---	2	10	nA	V <sub>R</sub> =5V, E <sub>v</sub> = 0Lux
Light Current	I <sub>L1</sub>	---	1.1	---	μA	V <sub>R</sub> =5V, E <sub>v</sub> = 100Lx <small>[Note1]</small>
	I <sub>L2</sub>	---	9.5	---	μA	V <sub>R</sub> =5V, E <sub>v</sub> = 1000Lx <small>[Note1]</small>
	I <sub>L3</sub>	---	12	---	μA	V <sub>R</sub> =5V, E <sub>v</sub> = 1000Lx <small>[Note2]</small>
Peak Sensitivity Wavelength	λ <sub>p</sub>	---	630	---	nm	
Sensitivity Wavelength Range	λ	390	---	700	nm	

Note:

1. White Fluorescent light (Color Temperature = 6500K) is used as light source. However, White LED is substituted in mass production.
2. Illuminance by CIE standard illuminant-A / 2856K, incandescent lamp.



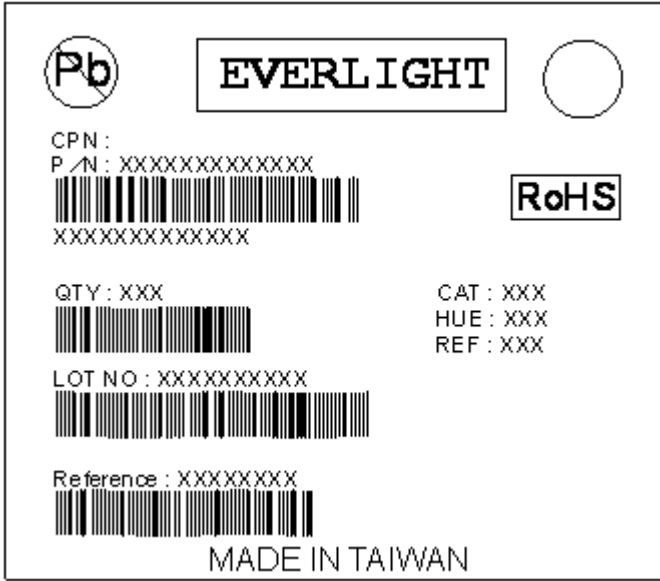
Typical Electrical and Optical Characteristics Curves



**Packing Quantity Specification**

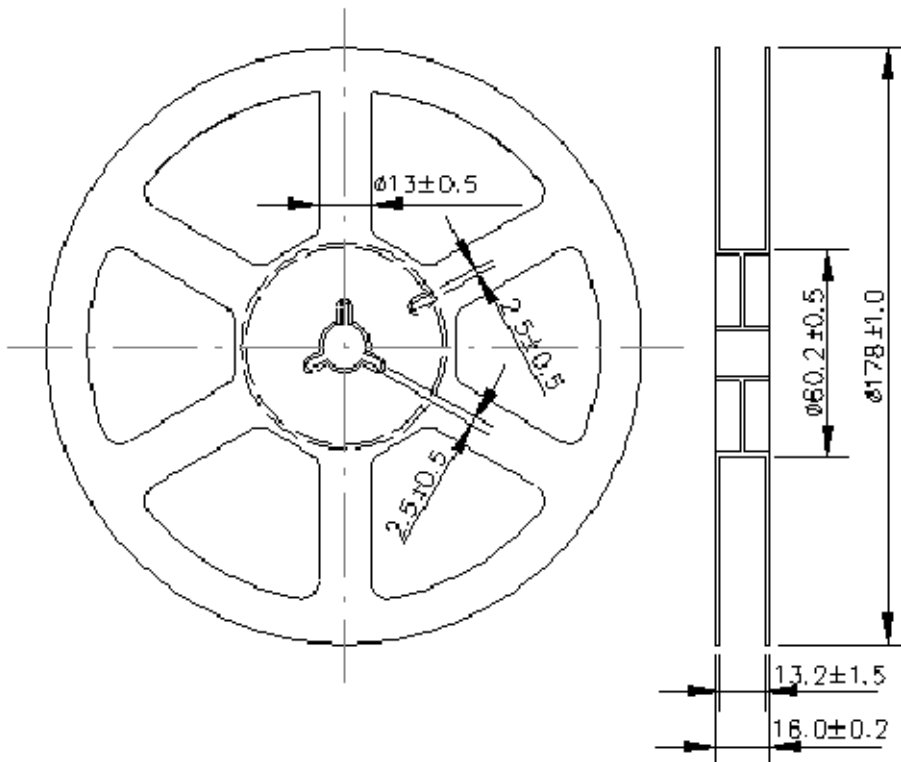
- 1.1000Pcs/1Volume , 1Volume/1Bag
- 2.10Boxes/1Carton

**Label Format**



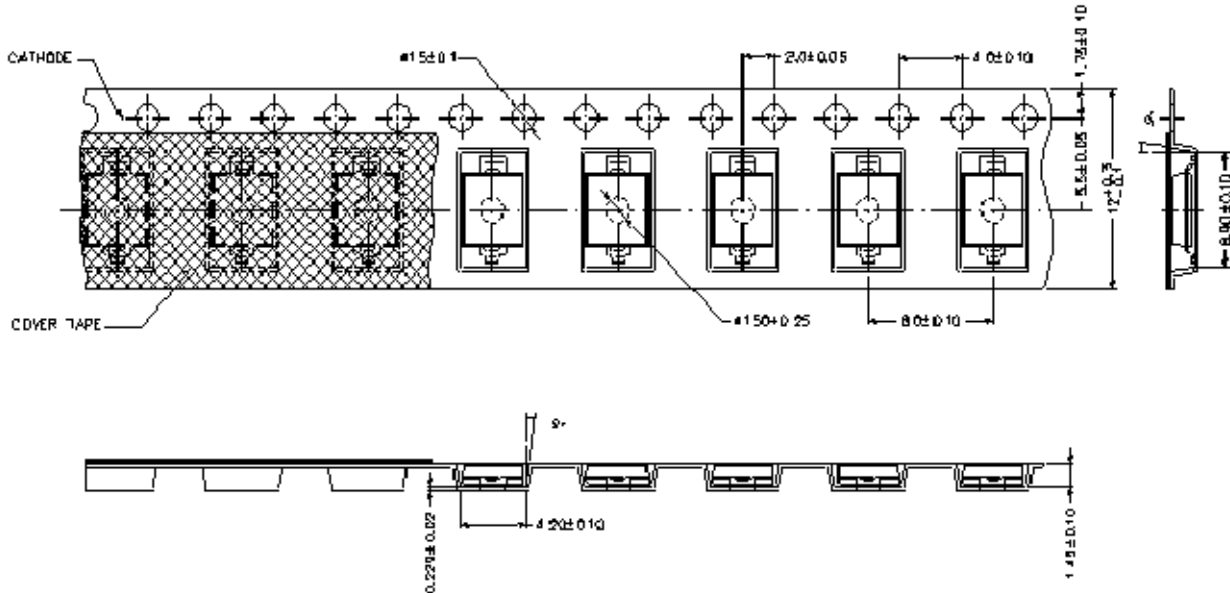
- CPN: Customer's Production Number
- P/N : Production Number
- QTY: Packing Quantity
- CAT: Ranks
- HUE: Peak Wavelength
- REF: Reference
- LOT No: Lot Number
- MADE IN TAIWAN: Production Place

**Reel Dimensions**



Unit: mm  
Tolerance:  $\pm 0.1$ mm

Loaded Quantity Per Reel 1000PCS/Reel



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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