



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, 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

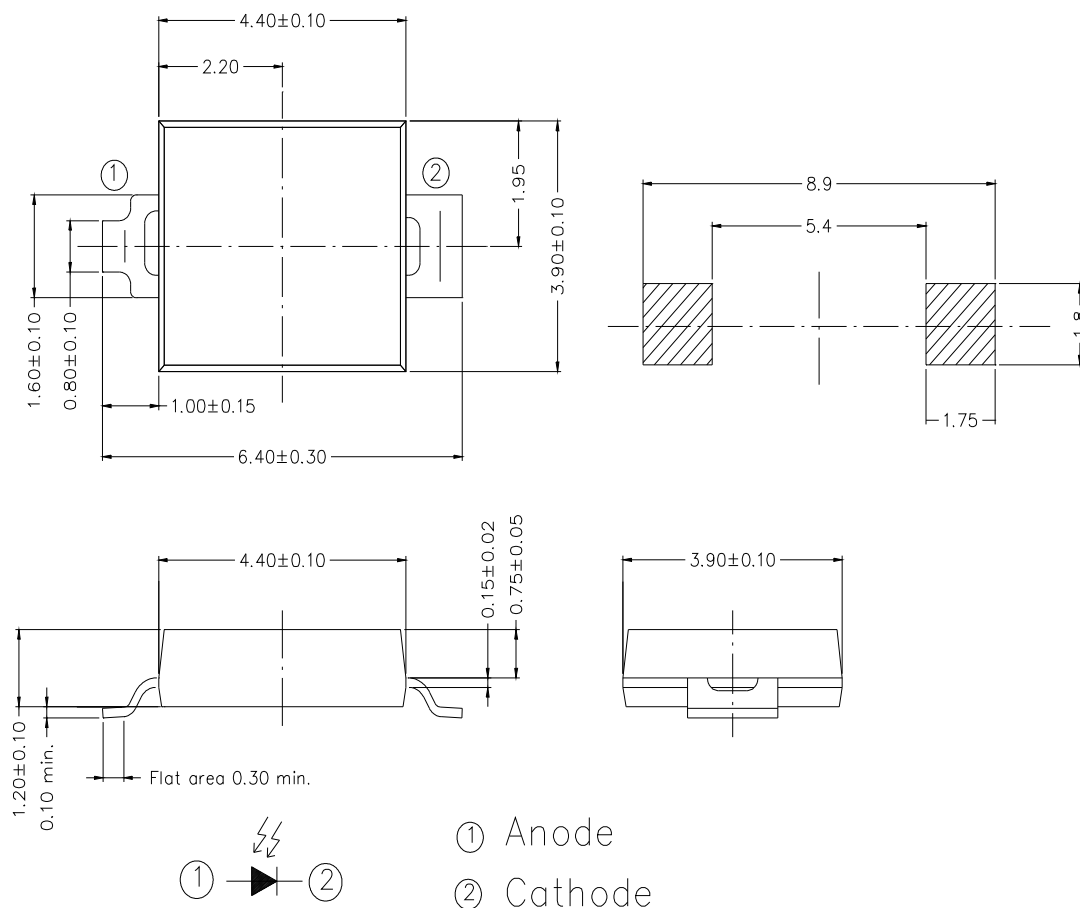


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Package Dimensions



Unit: mm

Tolerances: $\pm 0.1\text{mm}$



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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



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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}	---	1.1	---	uA	$V_R=5V$, $E_v=100\text{Lx}$ [Note1]
	I_{L2}	---	9.5	---	uA	$V_R=5V$, $E_v=1000\text{Lx}$ [Note1]
	I_{L3}	---	12	---	uA	$V_R=5V$, $E_v=1000\text{Lx}$ [Note2]
Peak Sensitivity Wavelength	λ_p	---	630	---	nm	
Sensitivity Wavelength Range	λ	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

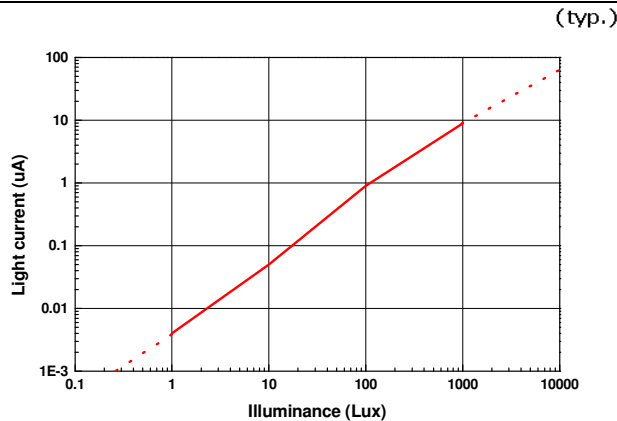


Fig.2 Output Voltage vs. Illuminance

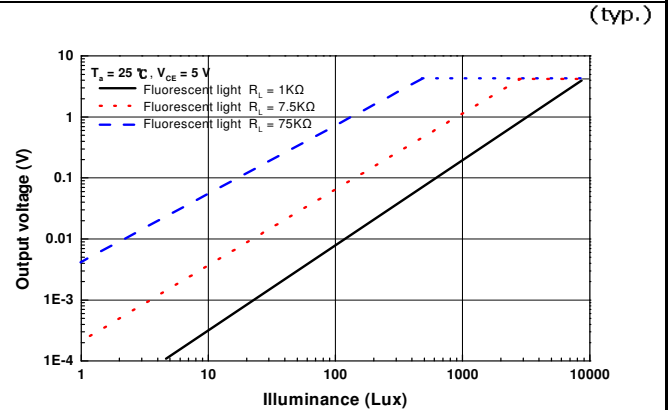


Fig.3 Spectral Response

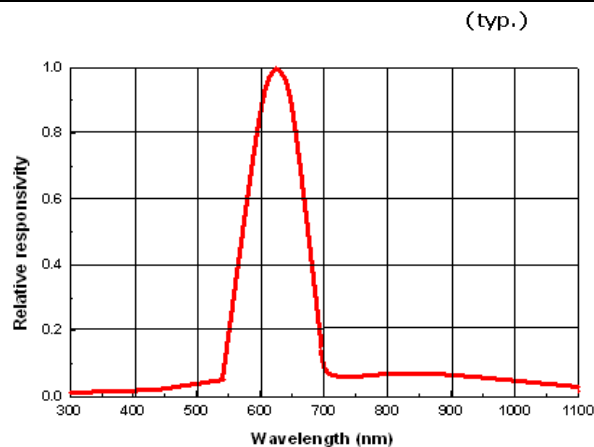


Fig.4 Light current vs. Supply Voltage

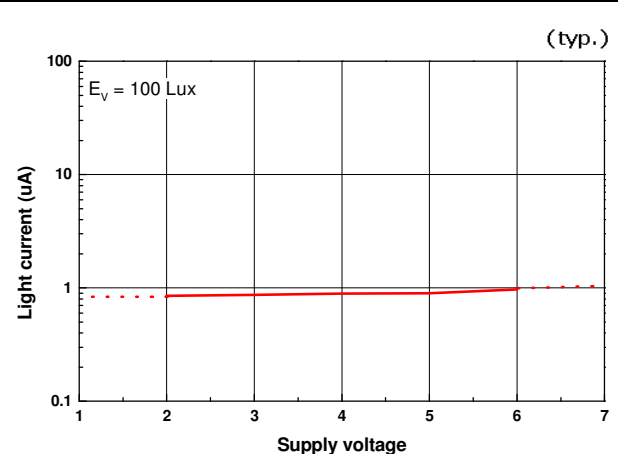


Fig.5 Light Current vs. Temperature

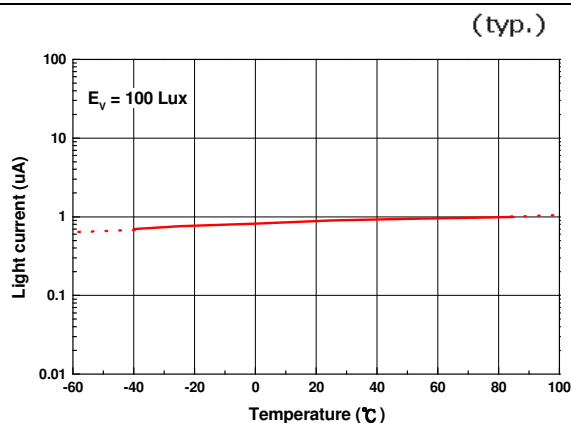
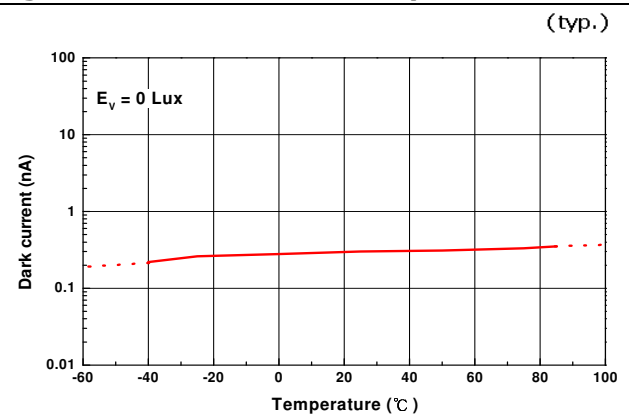


Fig.6 Dark current vs. Temperature



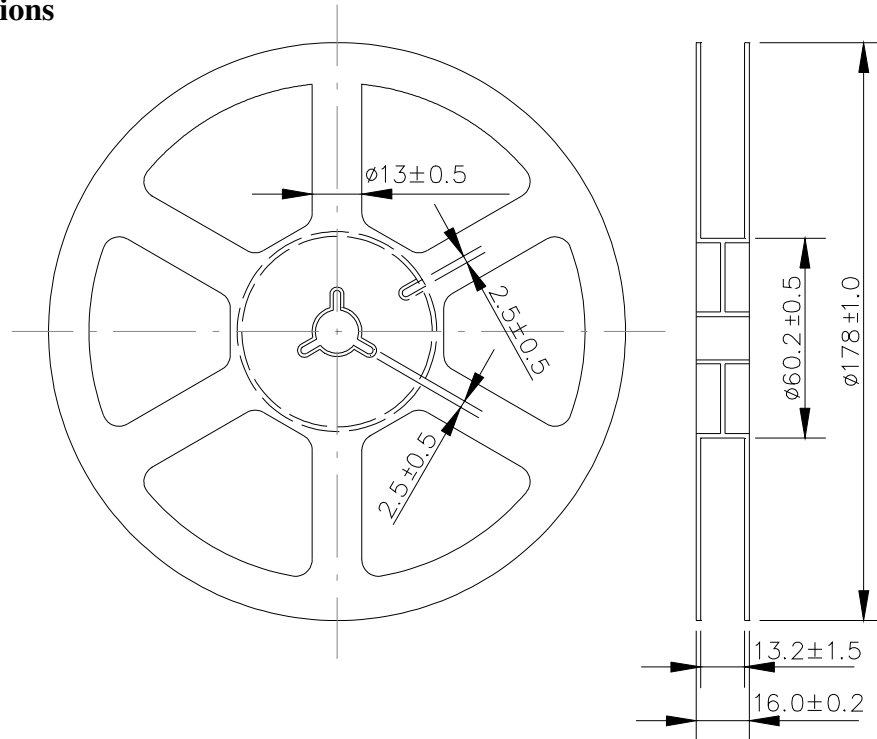


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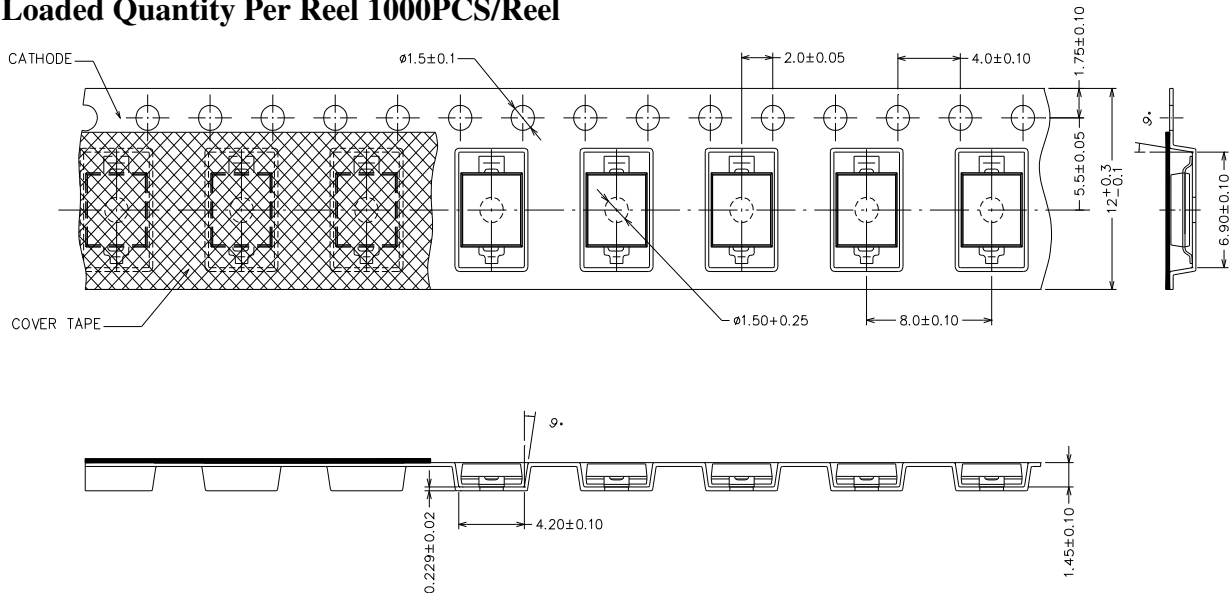
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Package Dimensions



Loaded Quantity Per Reel 1000PCS/Reel





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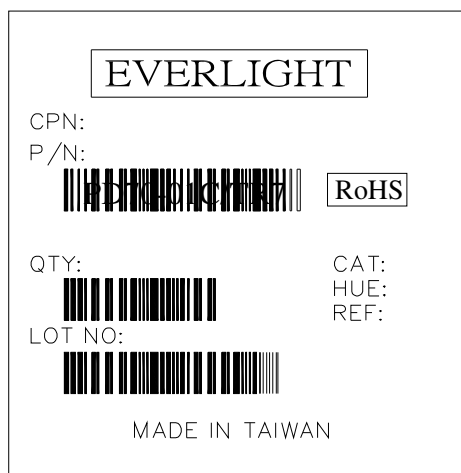
ALS-PD70-01C/TR7

Packing Quantity Specification

1.1000Pcs/1Volume , 1Volume/1Bag

2.10Boxes/1Carton

Label Form Specification



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



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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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