

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)
- The product itself will remain within RoHS compliant version
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)

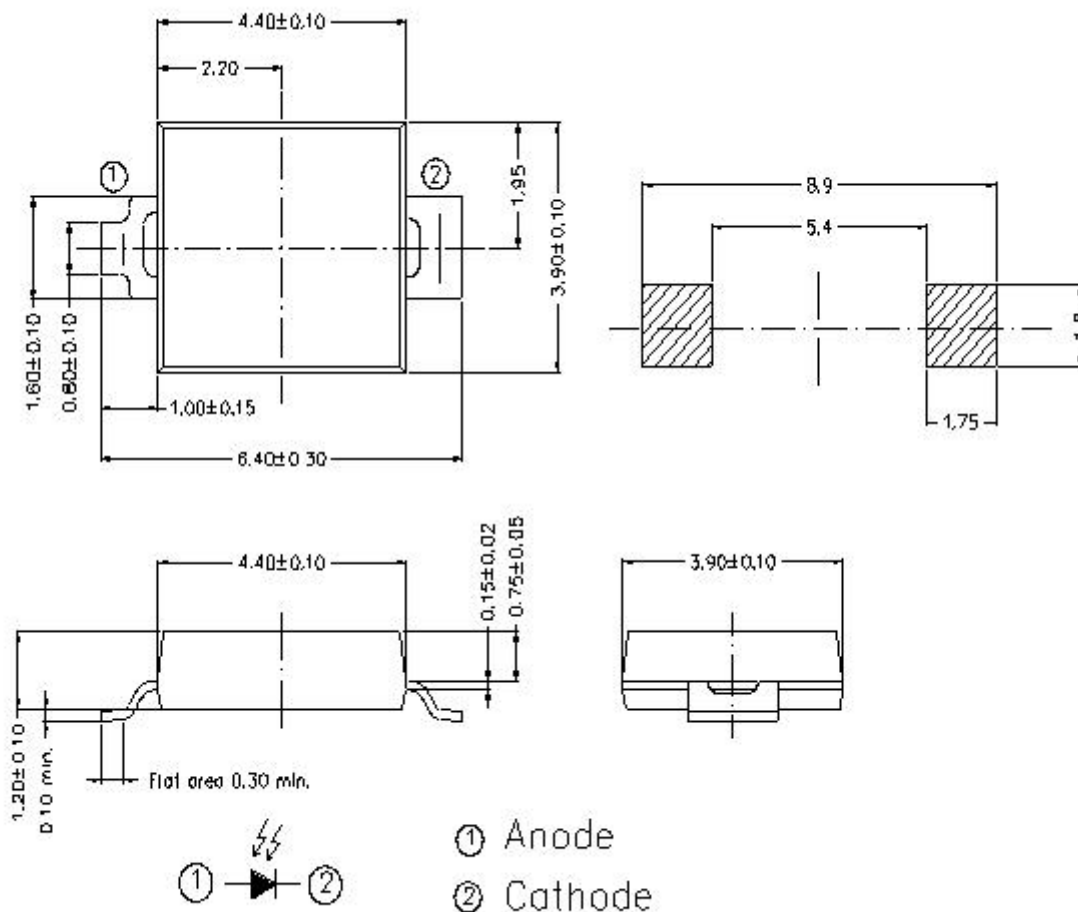
Description

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



Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions $\pm 0.1\text{mm}$

Absolute Maximum Ratings

Parameter	Symbol	Condition	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_{stq}	--	-40~+85	°C
Soldering Temperature	T_{sol}	--	260	°C

Recommended Operating Conditions ($T_a=25^{\circ}C$)

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

Electrical and Optical Characteristics (T_a=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Dark Current	I _D	---	2	10	nA	E _V =0Lux V _R =5V
Light Current	I _{L1}	---	1.1	---	uA	V _R =5V E _V =100Lux [Note1]
	I _{L2}	---	9.5	---		V _R =5V E _V =1000Lux [Note1]
	I _{L3}	---	12	---		V _R =5V E _V =1000Lux [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. However, White LED is substituted in mass production.
2. Illuminance by CIE standard illuminant-A / 2856K, incandescent lamp.

Typical Electro-Optical Characteristics Curves

Fig.1 Light Current vs. Illuminance

(typ.)

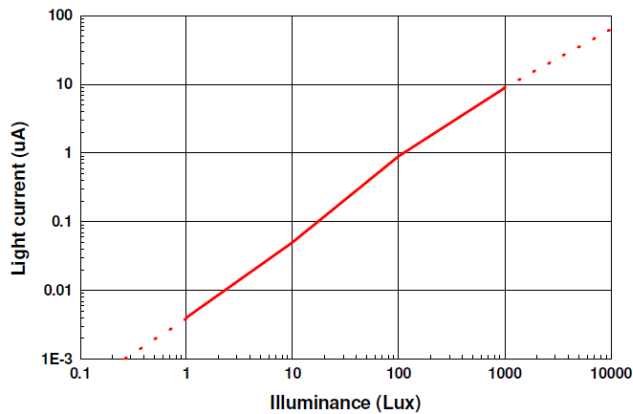


Fig.2 Dark Current vs. Temperature

(typ.)

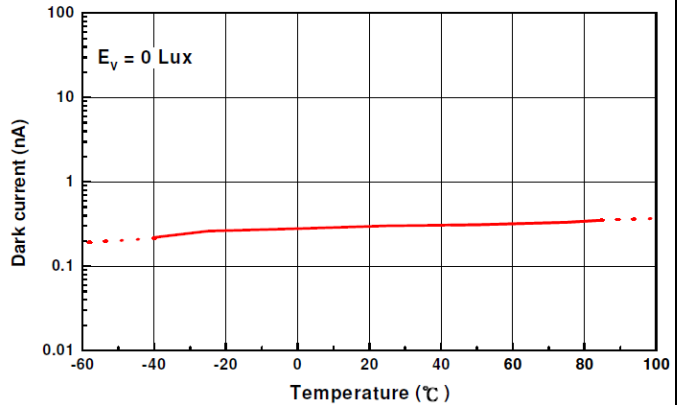


Fig.3 Light current vs. Temperature

(typ.)

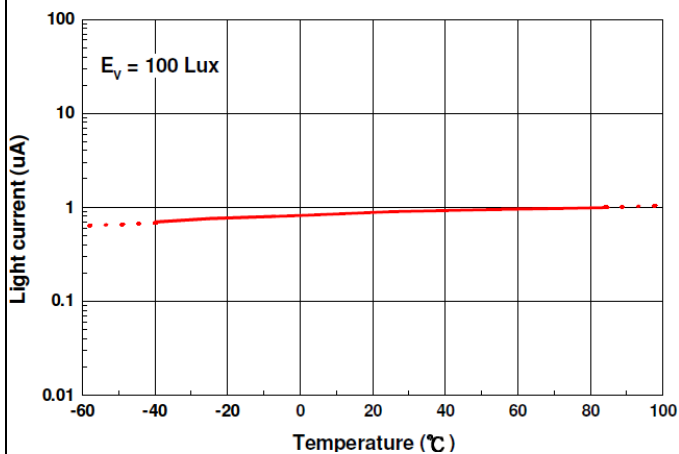


Fig.4 Light current vs. Supply Voltage

(typ.)

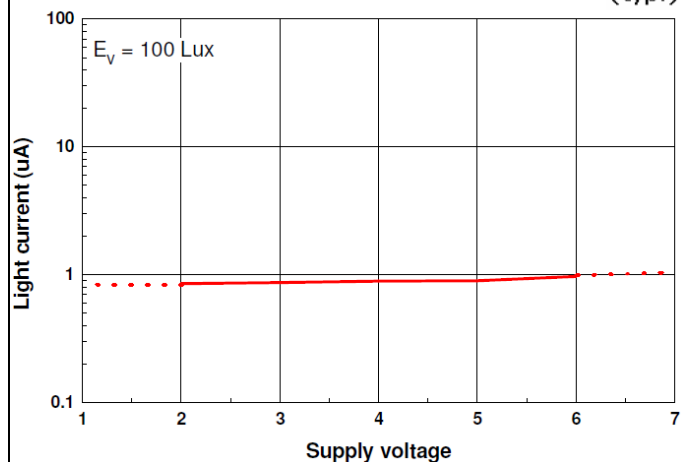
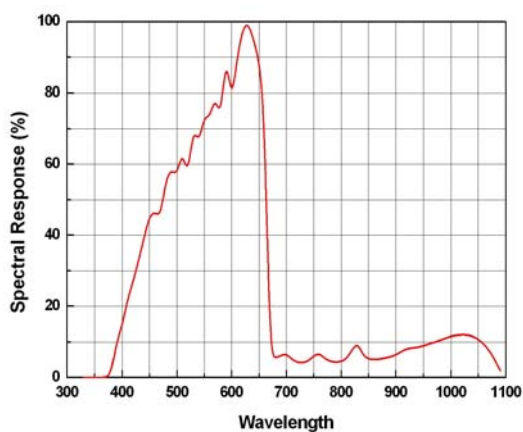


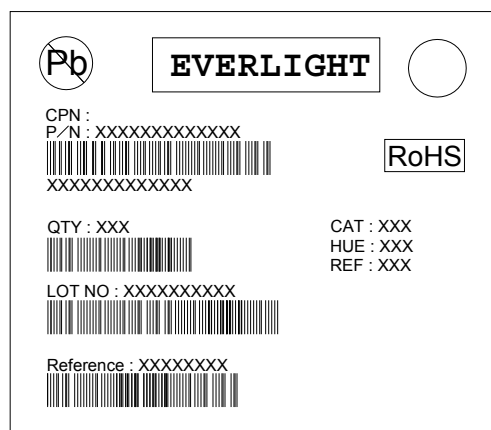
Fig.5 Spectral Response



Packing Quantity Specification

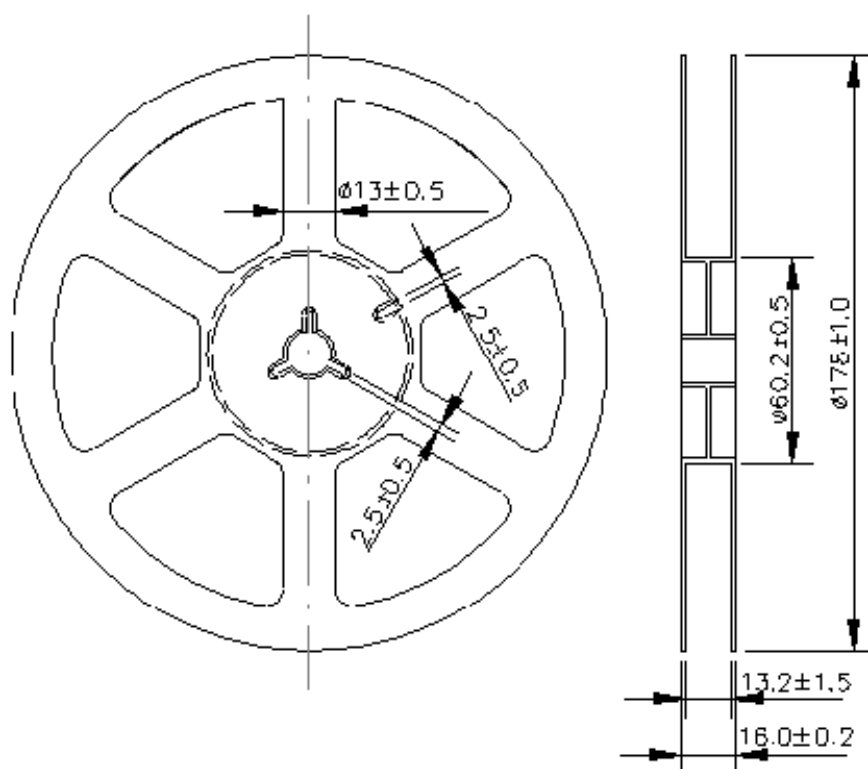
- 1.1000Pcs/1Volume , 1Volume/1Bag
- 2.10Boxes/1Carton

Label Format

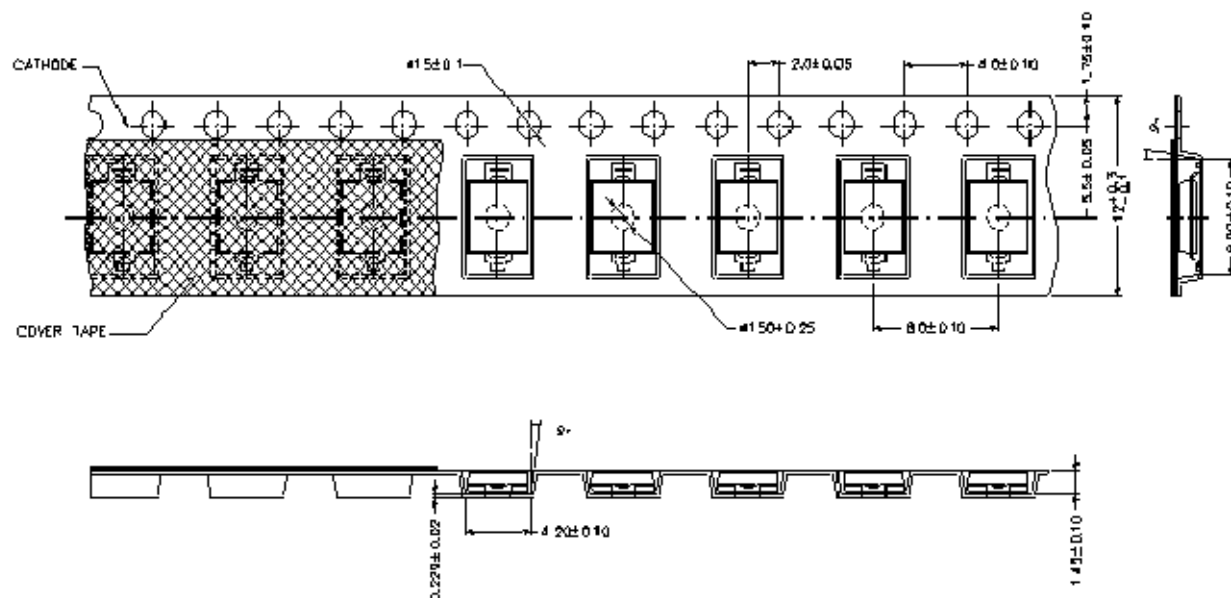


- CPN : Customer's Product Number
- P/N : Product Number
- QTY : Packing Quantity
- CAT : Ranks
- HUE : Peak Wavelength
- REF : Reference
- LOT No : Lot Number

Reel Dimensions



Loaded Quantity Per Reel 1000PCS/Reel



DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
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