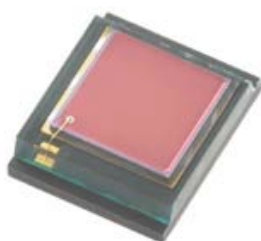


Ambient Light Sensor – Surface Mount ALS-PD50-42C/TR8



Features

- Close to the human eye's response
- Low sensitivity variation across various light sources
- Operating temperature performance, -40°C to 85°C
- Size : 5.0mm(L)×4.2mm(W)×1.1mm(H)
- Radiant sensitive area (in mm²): 8.0
- The product itself will remain within RoHS compliant version
- Compliance with EU REACH
- Compliance Halogen Free (Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm).

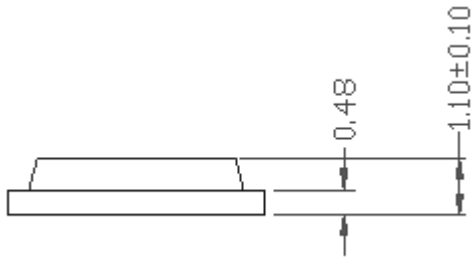
Description

ALS-PD50-42C/TR8 Ambient Light Sensor Device, consisting of a photodiode in miniature SMD package, which is molded in water clear package 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.

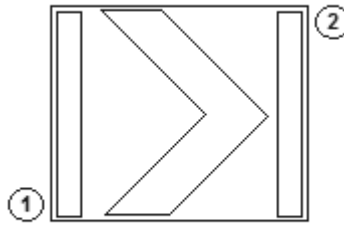
Applications

- 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

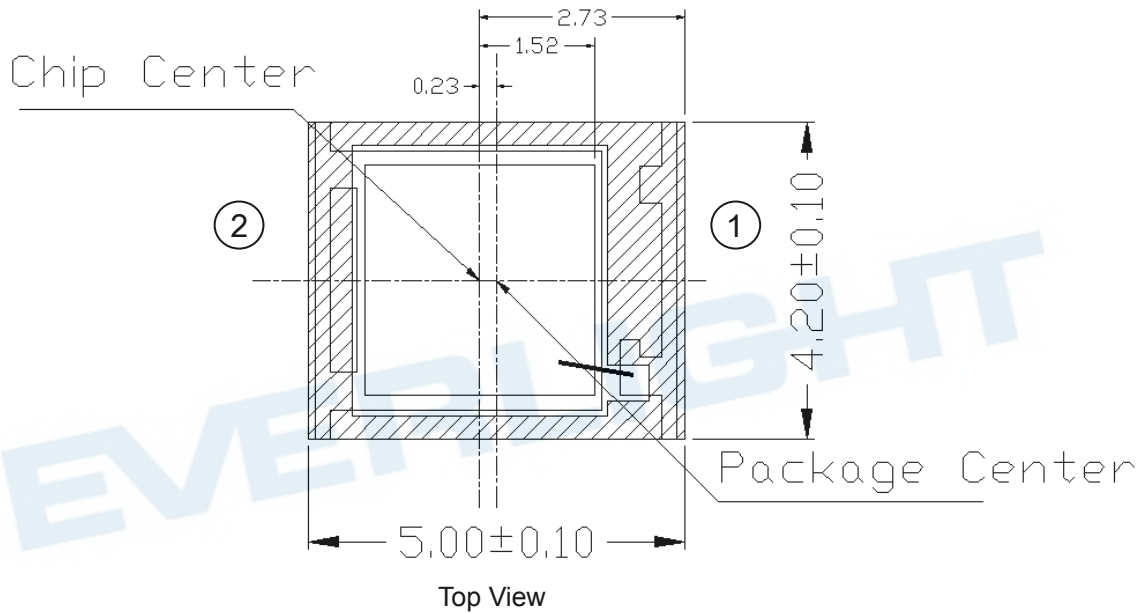
Package Dimensions



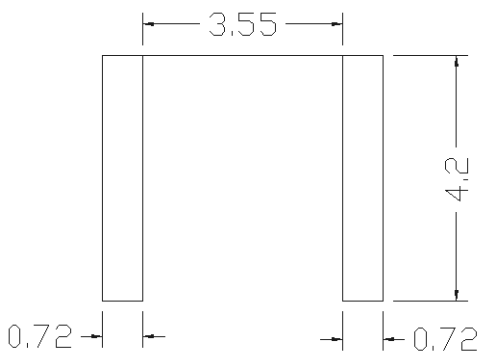
Side View



Back View



Top View



Recommend soldering pattern

Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions $\pm 0.25\text{mm}$

Absolute Maximum Operating Conditions (Ta=25°C)

Parameter	Symbol	Condition	Rating	Unit
Reverse voltage	V_R		20	V
Forward Voltage	V_F	$I_F=20mA$	1.1	V
Operating Temperature	T_{opr}	--	-40~+85	°C
Storage Temperature	T_{stq}	--	-40~+85	°C
Soldering Temperature	T_{sol}	--	260	°C

Electrical and Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Dark Current	I_D	---	1	30	nA	$E_V=0Lux$ $V_R=10V$
Light Current	I_{L1}	0.04	---	0.09	uA	$V_R=5V$ $E_V=10Lux$
	I_{L2}	0.4	---	0.9		$V_R=5V$ $E_V=100Lux$
	I_{L3}	4	---	9		$V_R=5V$ $E_V=1000Lux$
Peak Sensitivity Wavelength	λ_p	---	550	---	nm	---
Sensitivity Wavelength Range	$\lambda_{0.5}$	440	---	660	nm	---
Reverse Breakdown Voltage	V_{BR}	33			V	$I_R=100uA$
Diode capacitance	C_D		151		pF	$V_R=0V, E=0,$ $f=1 MHz$
	C_D		124			$V_R=3V, E=0,$ $f=1 MHz$
Angle of half sensitivity	$2\theta_{1/2}$		100		deg	$V_R=5V$

Typical Electrical and Optical Characteristics Curves

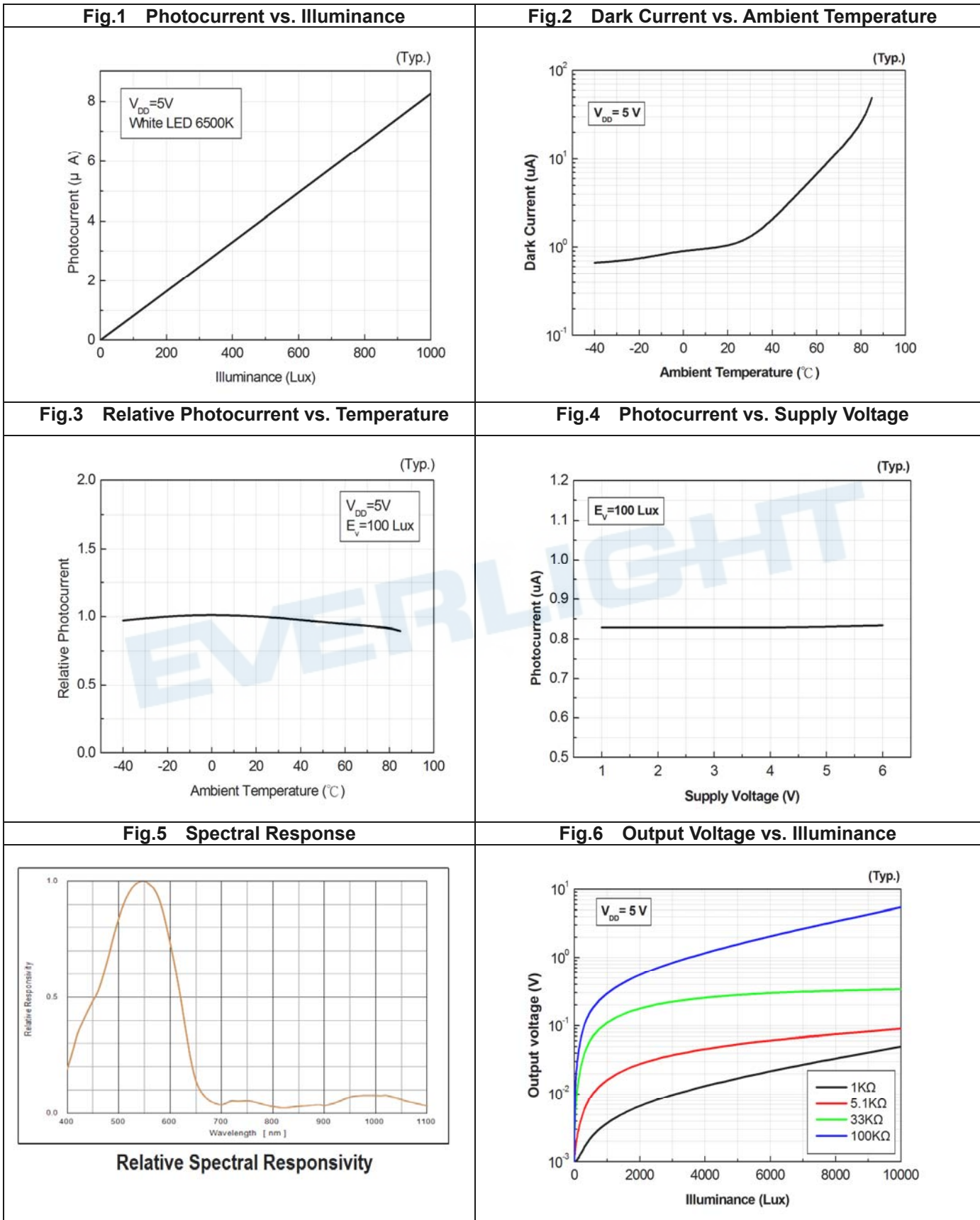
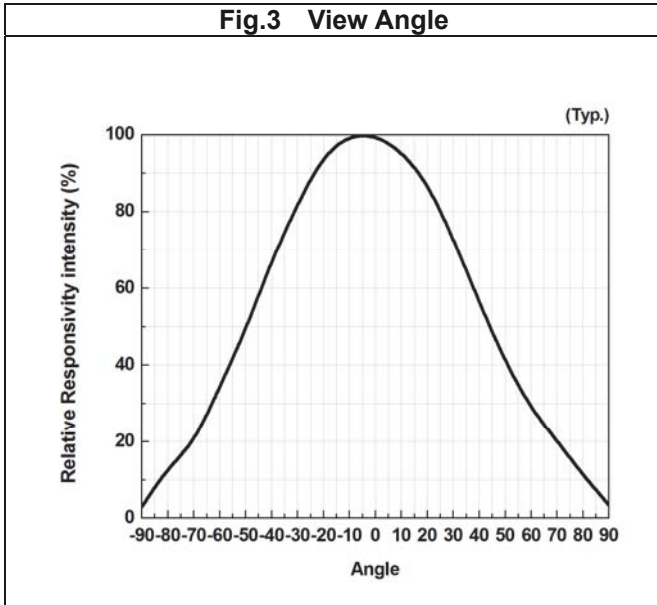


Fig.3 View Angle



Packing Quantity Specification

2000 Pcs/ 1 Reel

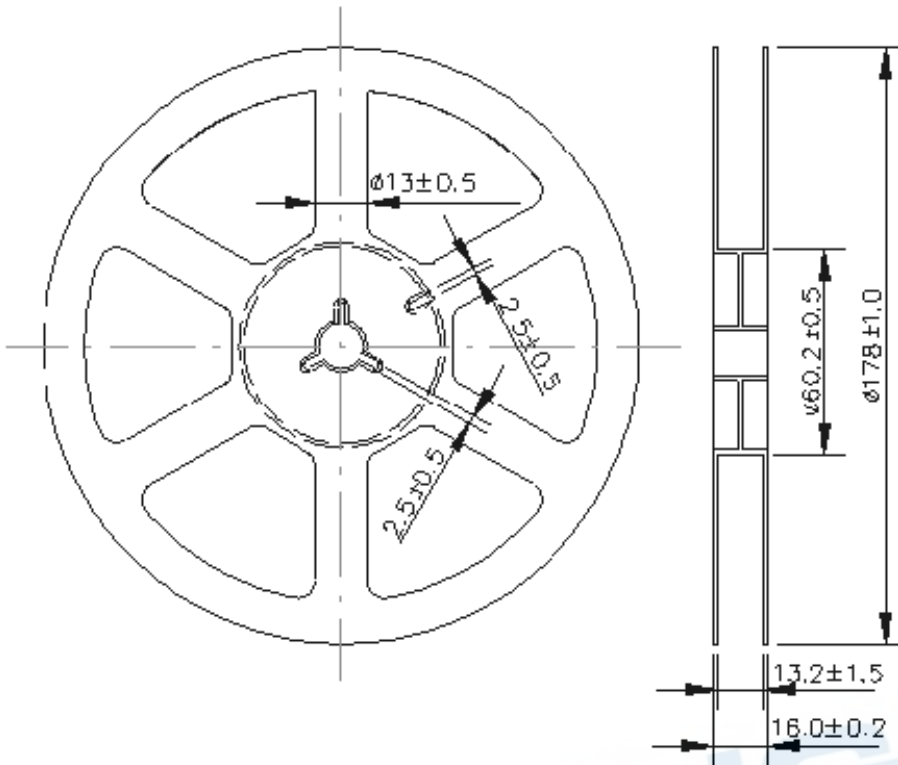
Label Format

RoHS Pb **EVERLIGHT** 5
 CPN : XXXXXXXXXXXXXXXXXXXX
 XXXXXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXX
 P/N : XXXXXXXXXXXX
 XXXXXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXX
 LOT NO: Y150716XXX-XXXXXXXX-XXXXXXXXXX
 QTY: 0123456789 HUE: XXXXXXXXXXX
 CAT: XXXXXXXXXXX REF: XXXXXXXXXXX
 REFERENCE: BTPYMMDDXXXXX
 MSL-X MADE IN XXXXXX

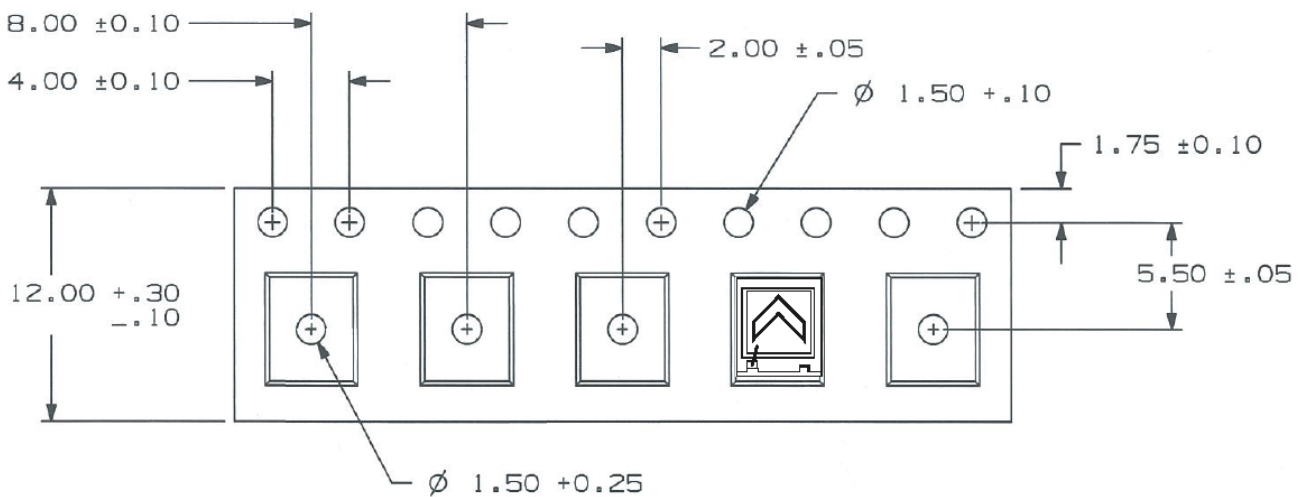


- CPN : Customer's Product Number
- P/N : Product Number
- QTY : Packing Quantity
- CAT : Ranks
- HUE : Peak Wavelength
- REF : Reference
- LOT No : Lot Number
- MSL : MSL Level
- MADE IN XXXXX : Manufacturing Location

Reel Dimensions



Loaded Quantity Per Reel 2000PCS/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.
4. 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 the 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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6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.