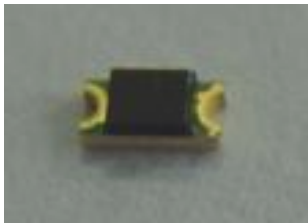


## 1206 Package Silicin PIN Photodiode

### EAPDST3215A0



#### Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Package in 8mm tape on “7” diameter reels
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)

#### Descriptions

- EAPDST3215A0 is a phototransistor in miniature SMD package which is molded in a Black epoxy with spherical top view lens.
- The device is Spectrally matched to infrared emitting diode.

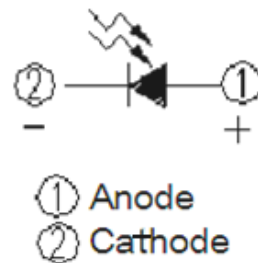
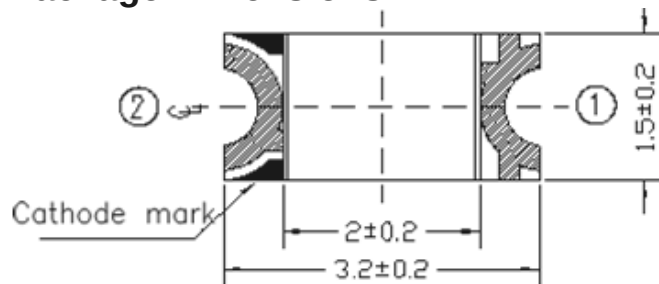
#### Applications

- Miniature switch
- Counters and sorter
- Position sensor
- Infrared applied system

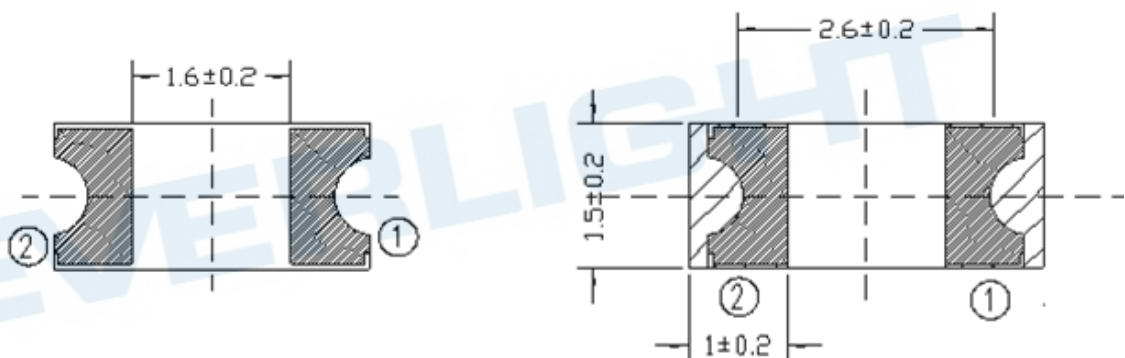
#### Device Selection Guide

| Device No.   | Chip Material | Lens Color |
|--------------|---------------|------------|
| EAPDST3215A0 | Silicon       | Black      |

## Package Dimensions



For reflow soldering(propose)



- Notes:**
1. All dimensions are in millimeters
  2. Tolerances unless dimensions  $\pm 0.1$  mm
  3. Suggested pad dimension is just for reference only  
Please modify the pad dimension based on individual need

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

| Parameter                                                   | Symbol           | Rating    | Units |
|-------------------------------------------------------------|------------------|-----------|-------|
| Reverse Voltage                                             | V <sub>R</sub>   | 32        | V     |
| Operating Temperature                                       | T <sub>opr</sub> | -25 ~ +85 | °C    |
| Storage Temperature                                         | T <sub>stg</sub> | -40 ~ +85 | °C    |
| Soldering Temperature *1                                    | T <sub>sol</sub> | 260       | °C    |
| Power Dissipation at(or below)<br>25°C Free Air Temperature | P <sub>d</sub>   | 150       | mW    |

Notes: \*1:Soldering time ≤ 5 seconds.

### Electro-Optical Characteristics (Ta=25°C)

| Parameter                      | Symbol          | Condition                                                         | Min | Typ | Max  | Unit    |
|--------------------------------|-----------------|-------------------------------------------------------------------|-----|-----|------|---------|
| Rang Of Spectral Bandwidth     | $\lambda$ 0.5   | ---                                                               | 730 | --- | 1100 | nm      |
| Wavelength Of Peak Sensitivity | $\lambda$ P     | ---                                                               | --- | 940 | ---  | nm      |
| Short-Circuit Current          | I <sub>sc</sub> | Ee=1mW/cm <sup>2</sup><br>$\lambda$ P=940nm                       | --- | 0.8 | ---  | $\mu$ A |
| Reverse Light Current          | I <sub>L</sub>  | Ee=1mW/cm <sup>2</sup><br>$\lambda$ P=940nm<br>V <sub>R</sub> =5V | 0.2 | 0.8 |      | $\mu$ A |
| Dark Current                   | I <sub>D</sub>  | Ee=0mW/cm <sup>2</sup><br>V <sub>R</sub> =10V                     | --- | --- | 10   | nA      |
| Reverse Breakdown Voltage      | B <sub>VR</sub> | Ee=0mW/cm <sup>2</sup><br>I <sub>R</sub> =100 $\mu$ A             | 32  | 170 | ---  | V       |

## Typical Electro-Optical Characteristics Curves

Fig.1 Power Dissipation vs.  
Ambient Temperature

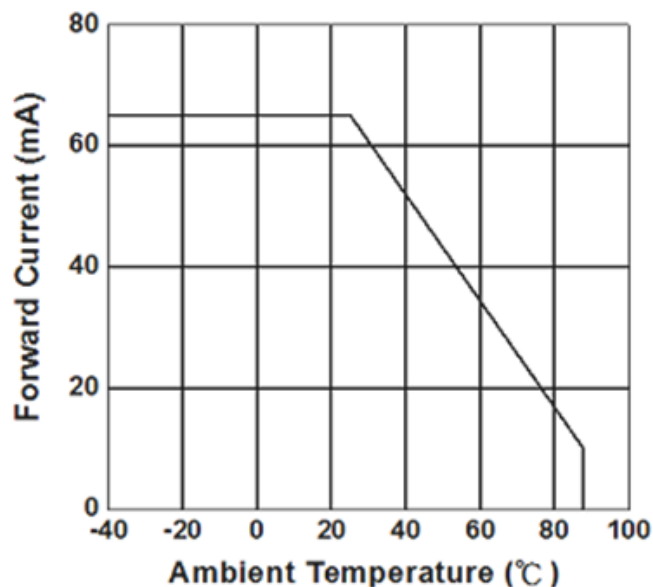


Fig.2 Spectral Sensitivity

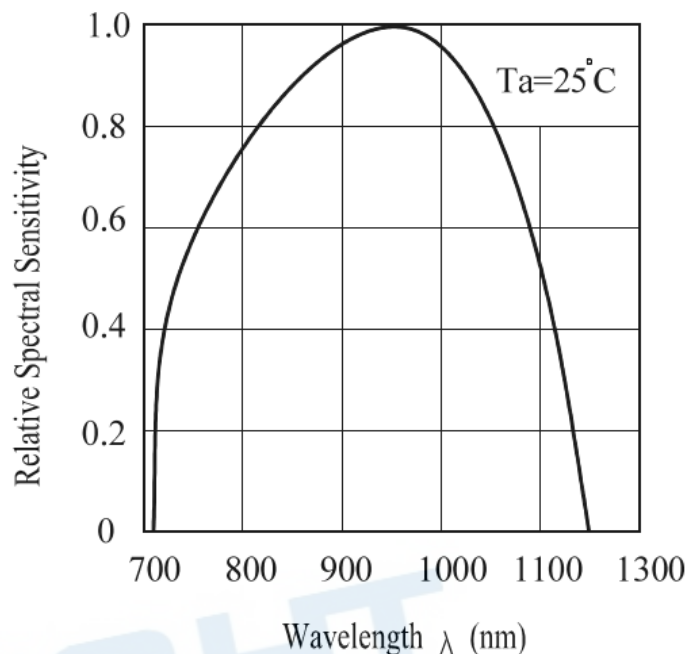


Fig.3 Dark Current vs.  
Ambient Temperature

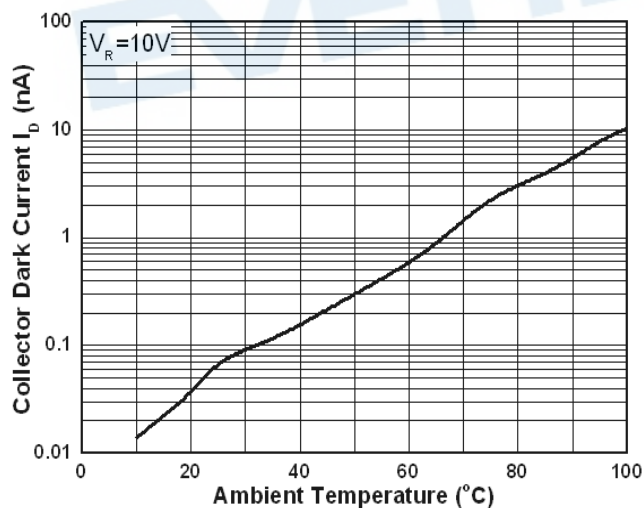


Fig.4 Reverse Light Current vs.  
 $E_e$

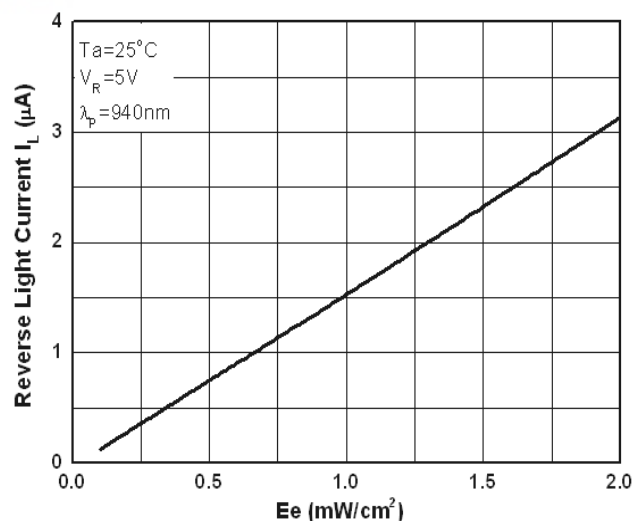
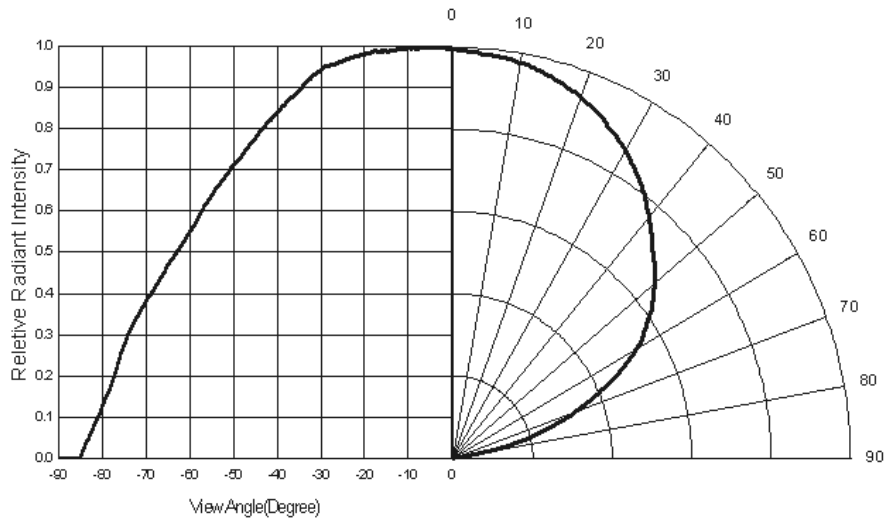




Fig.5 Relative Radiant Intensity vs.  
Angular Displacement



## Precautions For Use

### 1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

### 2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the Phototransistor should be kept at 10°C~30°C and 90%RH or less.

2.3 The Phototransistor suggested be used within one year.

2.4 After opening the package, the devices must be stored at 10°C~30°C and ≤ 60%RH, and used within 168 hours (floor life). If unused Phototransistor remain, it should be stored in moisture proof packages.

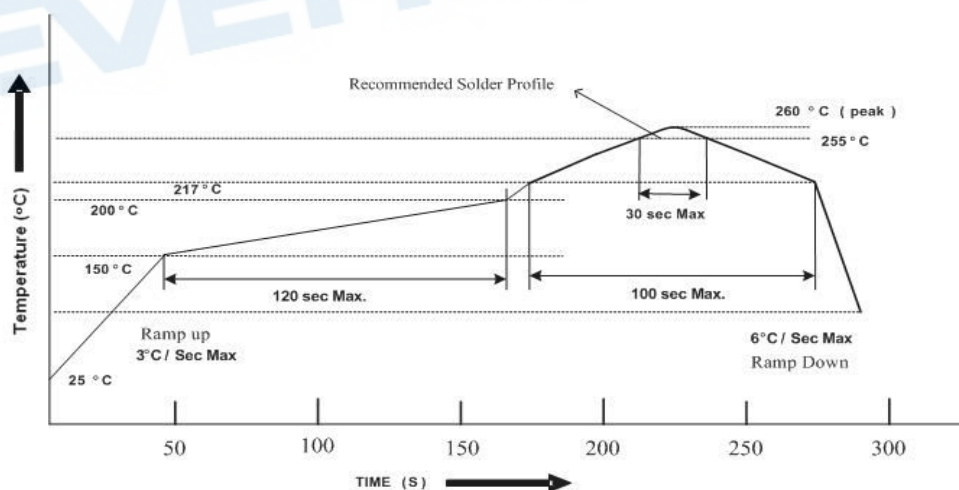
2.5 If the moisture absorbent material (desiccant material) has faded or unopened bag has exceeded the floor life, baking treatment is required.

2.6 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions:

96 hours at 60°C  $\pm$  5°C and < 5 % RH (reeled/tubed/loose units)

### 3. Soldering Condition

#### 3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the Phototransistor during heating.

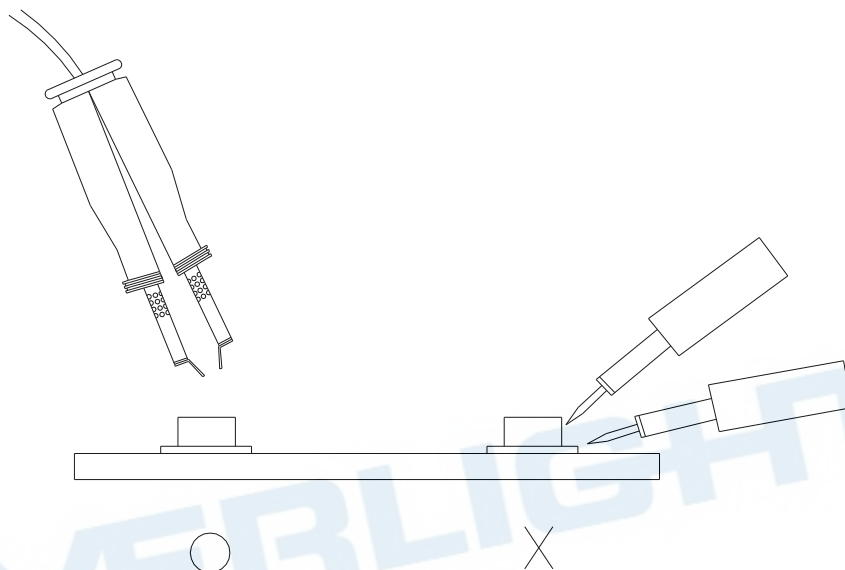
3.4 After soldering, do not warp the circuit board.

#### 4. Soldering Iron

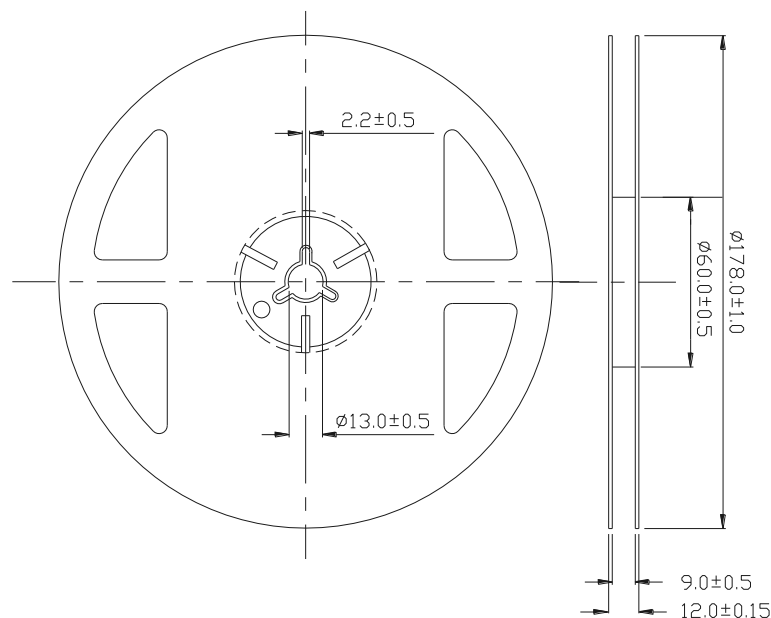
Each terminal is to go to the tip of soldering iron temperature less than  $350^{\circ}\text{C}$  for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

#### 5. Repairing

Repair should not be done after the Photo Transister have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the Photo Transister will or will not be damaged by repairing.

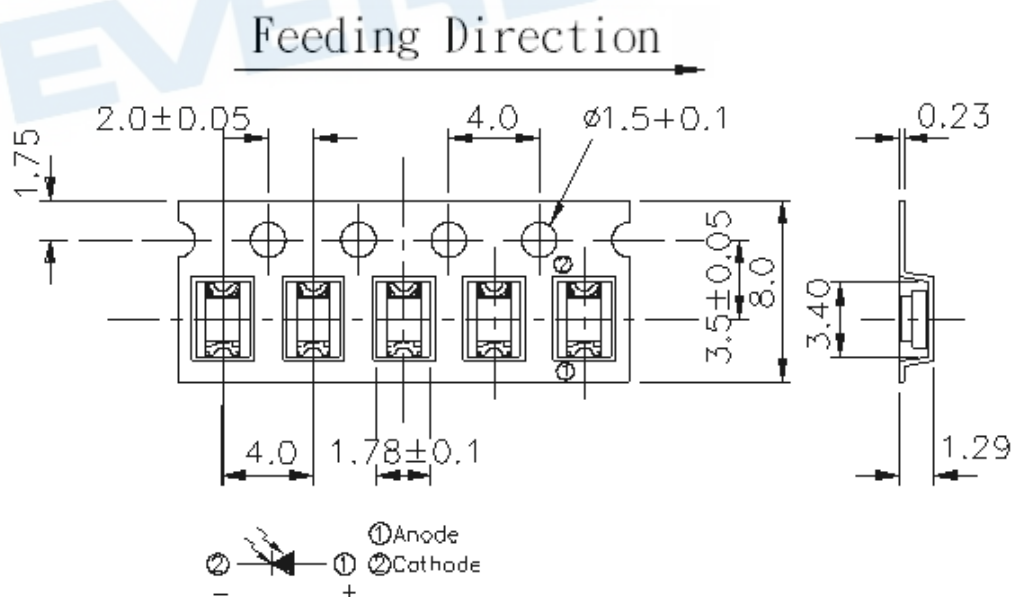


## Package Dimensions



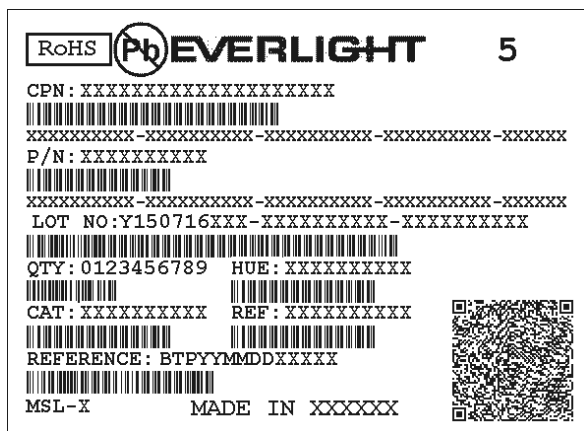
**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit = mm

## Carrier Tape Dimensions: (Quantity: 2000pcs/reel)



**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit :mm

## Label Form Specification



CPN: Customer's Production Number

P/N : Production Number

LOT No: Lot Number

QTY: Packing Quantity

HUE: Peak Wavelength

CAT: Ranks

REF: Reference

MSL-X: MSL Level

Made In: Manufacture place

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### EVERLIGHT ELECTRONICS CO., LTD.

Tel: 886-2-2685-6688

Office: No. 6-8, Zhonghua Rd., Shulin Dist.,

New Taipei City 23860, Taiwan

Fax: 886-2685-2699 , 6897

<http://www.everlight.com>