



TOYO LED ELECTRONICS LIMITED

Room 1610, Hong Kong Plaza, 188 Connaught Road West, Hong Kong.
Tel : (852) 2540 7288 Fax : (852) 2517 1797
http://www.toyo-led.com E-mail : sales@toyo-led.com



P/N: TY-Y1206UY1(1.10)

1206 Package 3.2*1.6mm Surface Mount LEDs Series

SPECIFICATION FOR CUSTOMER APPROVAL

P/N: TY-Y1206UY1(1.10)

DATE : April 26, 2016

PREPARED BY : Chen Li fen

CONFIRMED BY : *Yan guoliang*

PLEASE CONFIRM & SIGN BACK THIS SHEET TO US

CUSTOMER: _____

APPROVAL BY: _____

(COMPANY CHOP)

(SIGNATURE)



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◇ Features:

- 3.2*1.6*1.1 mm
- Mono-color type
- Soldering methods :All SMT assembly methods
- Comply ROHS standard

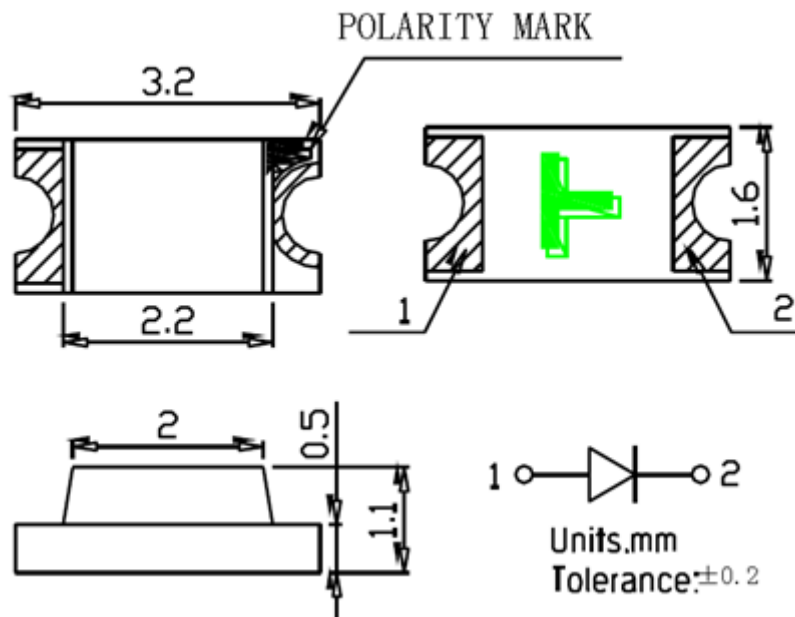
◇ Description

The Yellow source color devices are made with **AlGaInP** on sapphire Light Emitting Diode.

◇ Application

- Optical indicator
- Indicator and backlighting in telephone and fax
- Flat backlight for LCD, switch and symbol
- Light pipe application
- General use

◇ Package Dimensions



NOTES :

1. All dimensions are in millimeter[unit];
2. Tolerance is $\pm 0.1\text{mm}$ ($0.004''$) unless other specified;
3. Specifications are subject to change without notice.



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| Part No. | Emitted Color | Len's Color | Chip Material |
|-------------------|---------------|-------------|---------------|
| TY-Y1206UY1(1.10) | Yellow | Water clear | AlGaInP |

✧ Absolute Maximum Ratings(Ta=25)

| Item | Symbol | Maximum | Unit |
|---|-------------------|---------------------|------|
| Power Dissipation | PD | 75 | mW |
| Continuous Forward Current | I _{Fmax} | 30 | mA |
| Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width) | I _{FP} | 80 | mA |
| Reverse Voltage | V _R | 5 | V |
| Operating Temperature Range | T _{opr} | -40 to+85 | |
| Storage Temperature Range | T _{stg} | -40 to+85 | |
| Lead Solder Temperature | Tsol | 260°C for 3 seconds | |

✧ Electrical/Optical Characteristics(Ta=25)

| Item | Symbol | Condition | Min. | Typ. | Max | Unit |
|--------------------|-------------------|----------------------|------|------|-----|------|
| Forward Voltage | V _F | I _F =20mA | 1.9 | 2.0 | 2.3 | V |
| Luminous Intensity | I _v | I _F =20mA | 70 | 150 | --- | mcd |
| Wavelength | λ | I _F =20mA | 586 | 590 | 592 | nm |
| Viewing Angle | 2θ _{1/2} | I _F =20mA | -- | 120 | -- | Deg |
| Reverse Current | I _R | V _R =5V | -- | -- | 10 | uA |



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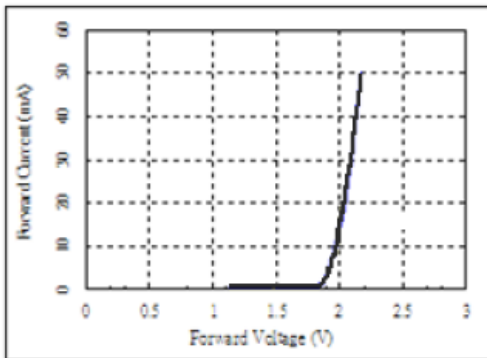


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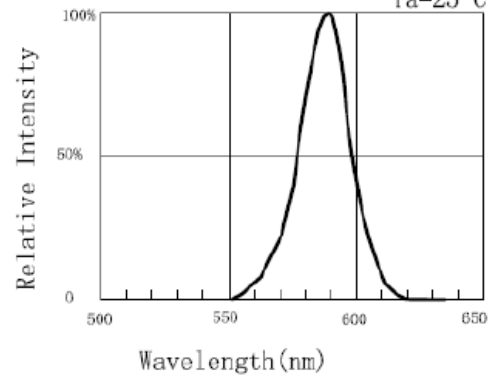
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✧ Typical Electro-Optical Characteristics Curves

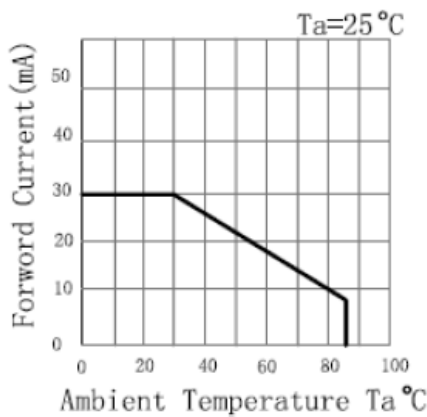
Forward Current Vs. Forward Voltage



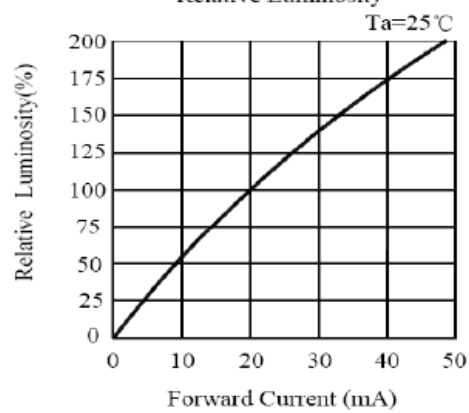
Relative Intensity VS Wavelength
Ta=25°C



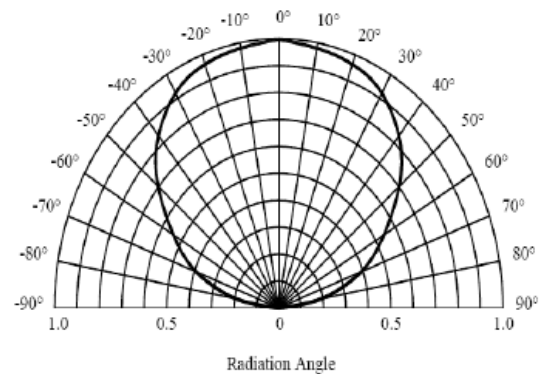
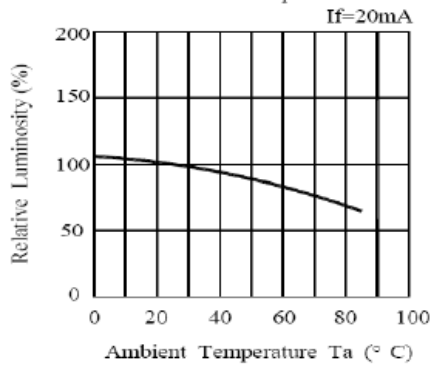
Forward Current VS
Ambient Temperature



Forward Current Vs.
Relative Luminosity



Relative Luminosity Vs.
Ambient Temperature





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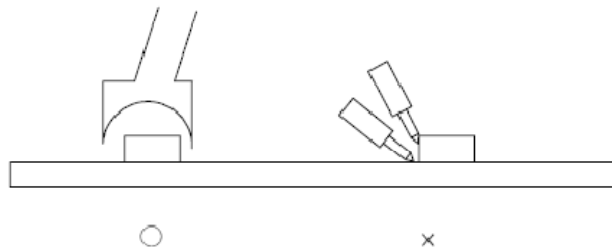
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◇ Reliability Test Items And Conditions

| NO. | Item | Test Condition | Test Hr/cycle/time | Sample Q'ty | Ac/Re |
|-----|--------------------------|--|--------------------|-------------|-------|
| 1 | Reflow | TEMP:260±5 ; Min.5Sec | 6 min | 22pcs | 0/1 |
| 2 | Temperature Cycle | H:+90 30mins To(5mins) L:-30 30mins | 100 cycles | 22pcs | 0/1 |
| 3 | Thermal Shock | H:+100 20mins To(5mins) L:-40 20mins | 500 cycles | 22pcs | 0/1 |
| 4 | High Temperature Storage | TEMP:+100 | 1000hrs | 22pcs | 0/1 |
| 5 | Low Temperature Storage | TEMP:-30 | 1000hrs | 22pcs | 0/1 |
| 6 | DC Operating Life | IF=20MA | 1000hrs | 22pcs | 0/1 |
| 7 | High Temperature | 65 | 240hrs | 22pcs | 0/1 |
| 8 | High Humidity | R.H.= 85% | | 22pcs | 0/1 |

Rework

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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❖ 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 time

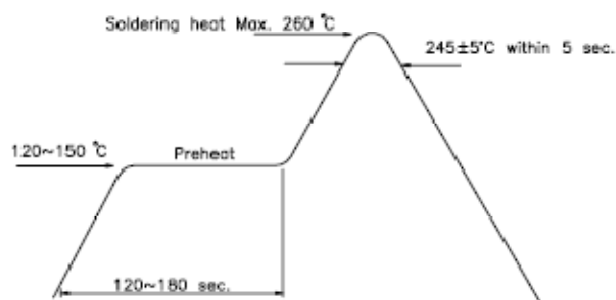
2.1 The operation of Temperature and RH are : $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH60%.

2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with desiccating agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

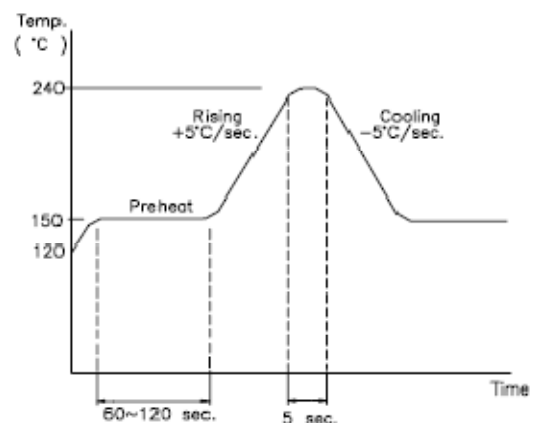
2.3 If opened more than one week in an atmosphere $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH 60%, they should be treated at $60^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 15hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

Soldering heat



Reflow Temp / Time



Soldering Iron

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C}\rightarrow -1$ sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230°C .



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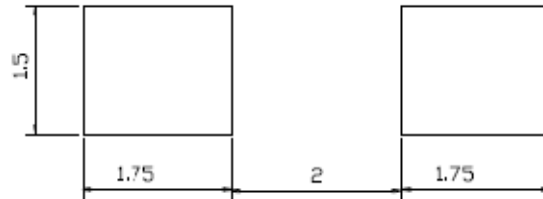
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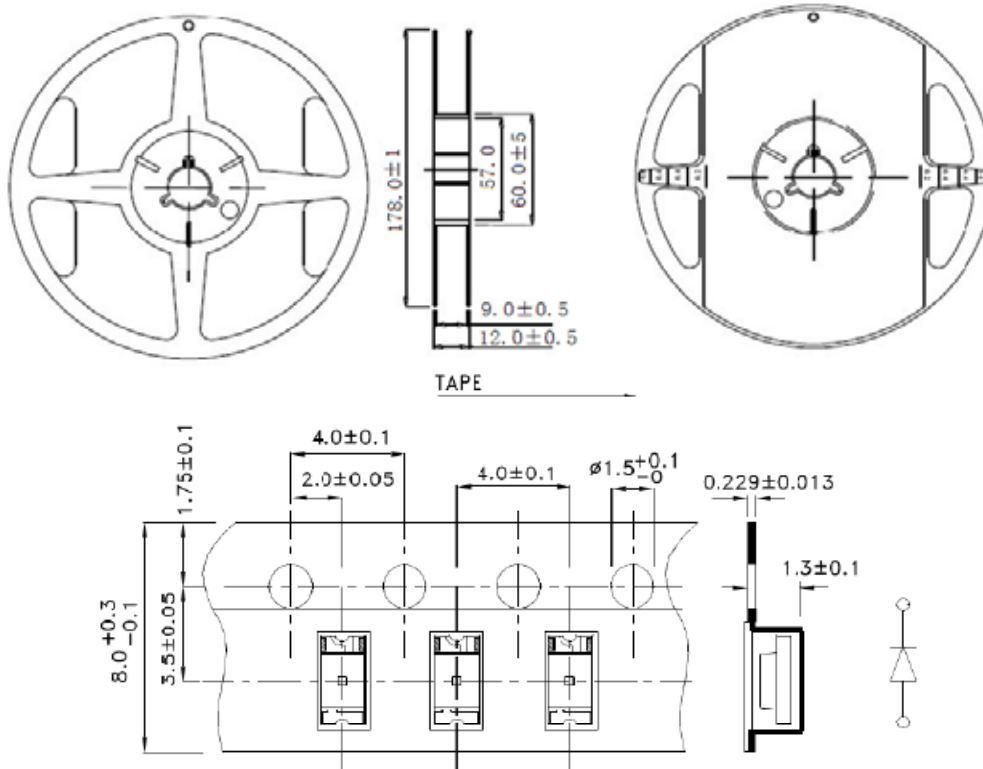
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◇ Recommended Soldering Pad Dimensions



◇ Tape Specification: 3,000pcs



◇ Package Label

| SMD LED | |
|---|---------|
| PART NO: _____ | QA Pass |
| LOT NO : _____ | |
| Q' TY : _____ | Pb |
| VF : _____ IV : _____ | |
| TC : _____ BIN: _____ | |
| DATE : _____ | |
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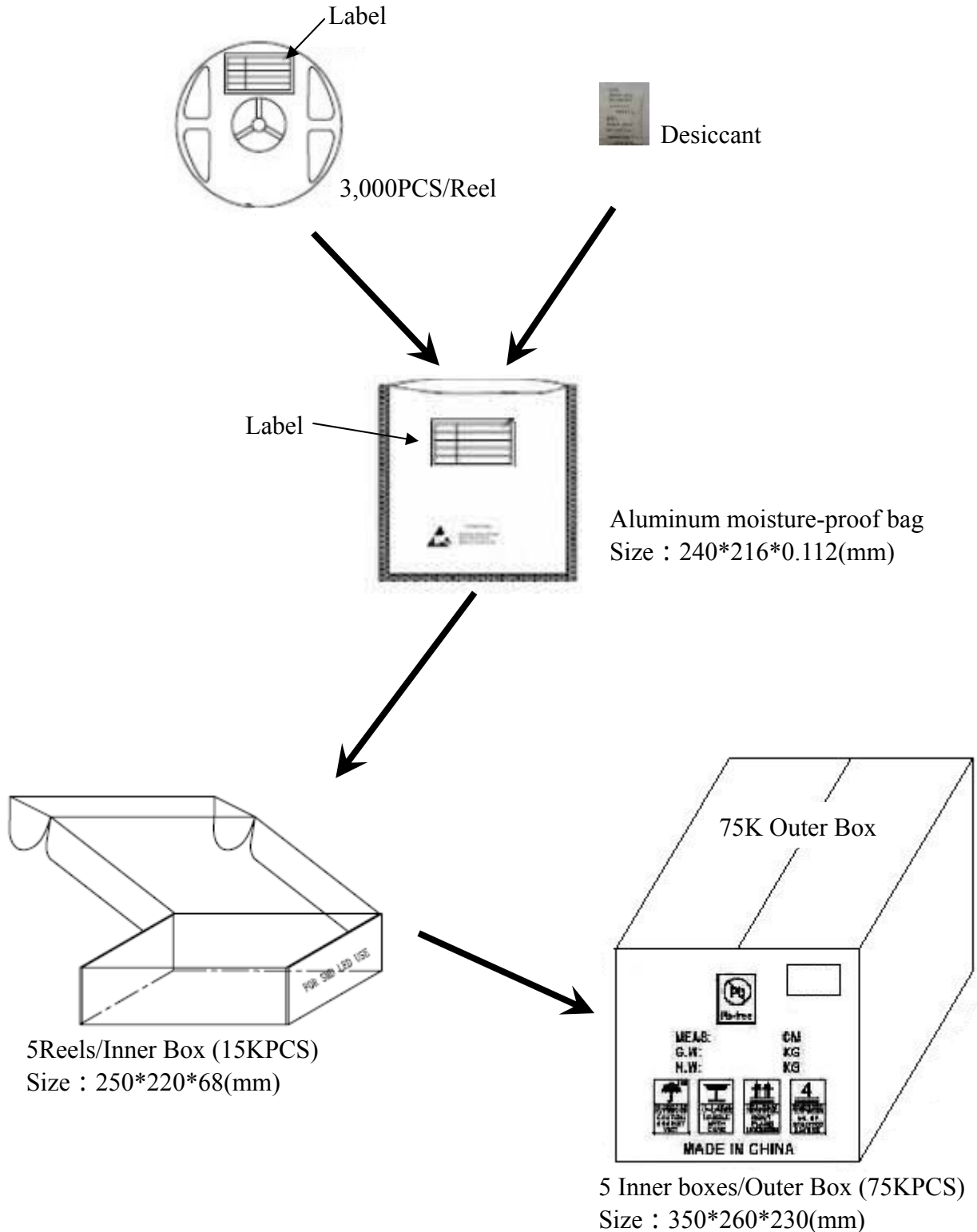
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❖ Package & Shipping Instructions





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REVISION HISTORY

| DATE | REVISION CONTENTS | VERSION |
|-----------|-------------------|---------|
| 2016-3-20 | New | A |
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