

# 承認書

## Specification For Approval

Customer: (客戶)

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Description: (產品描述) SMDLED3210

\_\_\_\_\_

Part number: (產品型號) TJ-S3210YCF15HQP86-A3

\_\_\_\_\_

Date: (日期)

\_\_\_\_\_

Approved By: (客戶承認)

Prepared By: (我司承認)

Approval	Check	Design	Sales
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核准

審核

製作

業務

Customer Service Hotline: **400-676-8616**

TEL: 0769-8662 5999      0769-8200 2226

E-MAIL : dg@togialed.com

FAX: 0769-8200 2227

WEB: www.togialed.com

## Features

3.2mm x 1.0mm SMT LED, 1.5 mm thickness

Low power consumption

Wide view angle TOGIALED

Package: 3000pcs/reel

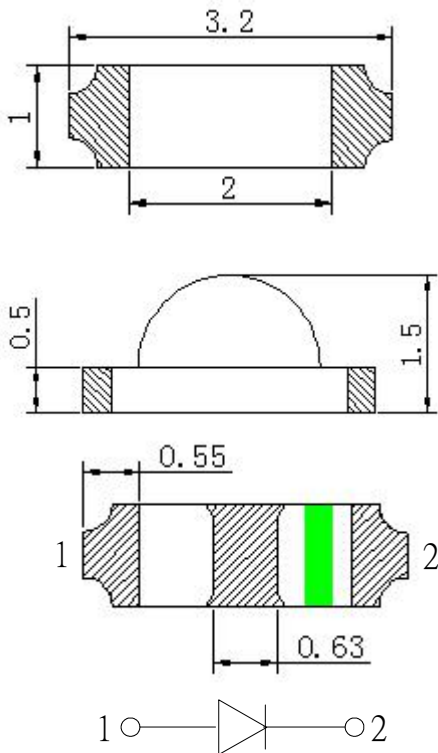
RoHS Compliant

## Applications

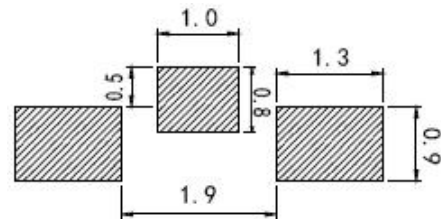
Ideal for back light and indicator

Various colors and lens types available

### Package outlines



### Recommend Pad Layout



Part No.	Emitted color	Dice	Lens color
TJ-S3210YCF15HQP86-A3	Yellow	AlGaInP	Water transparent

### Notes:

1. All dimensions are in millimeters (inches);
2. Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.

**Absolute maximum ratings (TA=25°C)**

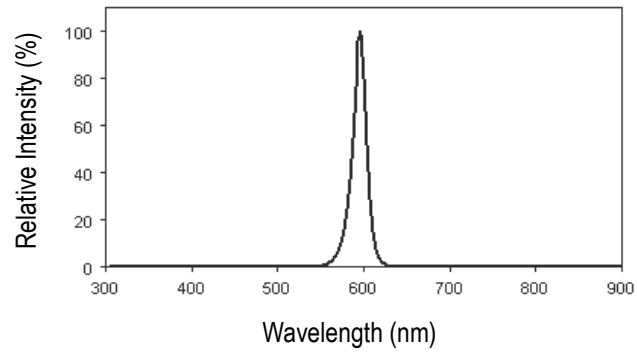
Parameter	Symbol	Value	Unit
Forward current	If	20	mA
Reverse voltage	Vr	5	V
Power dissipation	Pd	72	mW
Operating temperature	Top	-40 ~+80	°C
Storage temperature	Tstg	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125	mA

**Electro-optical characteristics (TA=25°C)**

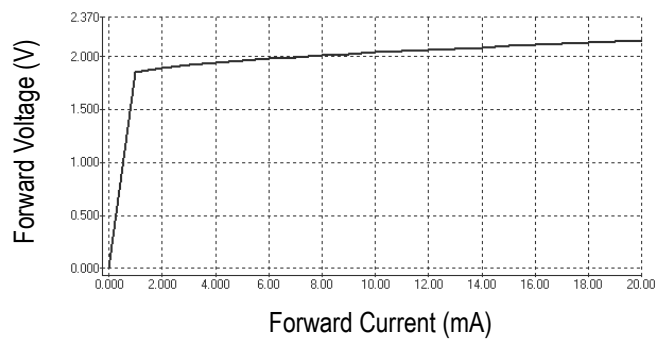
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	If=20mA	$\lambda_p$	---	590	---	nm
Spectral half bandwidth	If=20mA	$\Delta \lambda$	--	18	--	nm
Dominant wavelength	If=20mA	$\lambda_d$	585	---	595	nm
Forward voltage	If=20mA	Vf	1.8	---	2.4	V
Luminous intensity	If=20mA	Iv	80	---	200	mcd
Viewing angle at 50% Iv	If= 10mA	$2\theta_{1/2}$	---	120	---	Deg
Reverse current	Vr=5V	Ir	---	---	10	$\mu$ A

Optical characteristic curves

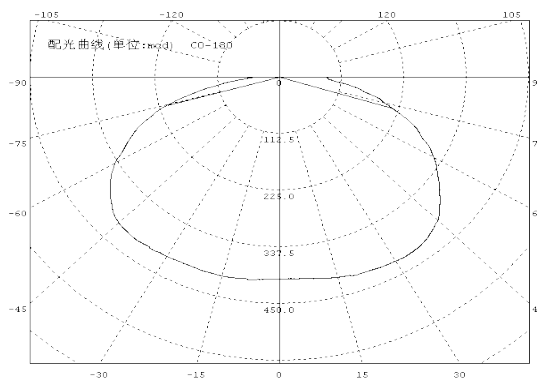
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage

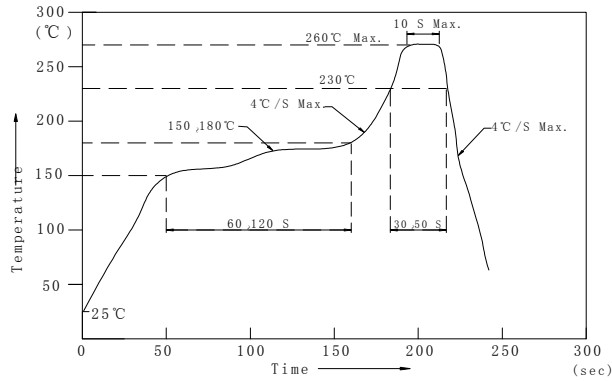


Directive Characteristics



## Reflow Profile

### ■ Reflow Temp/Time



### Notes:

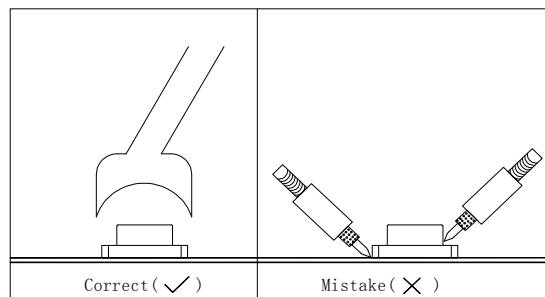
1. We recommend the reflow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ . TOGIALED
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

Basic spec is  $\leq 5\text{sec}$  when  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .

### ■ Rework

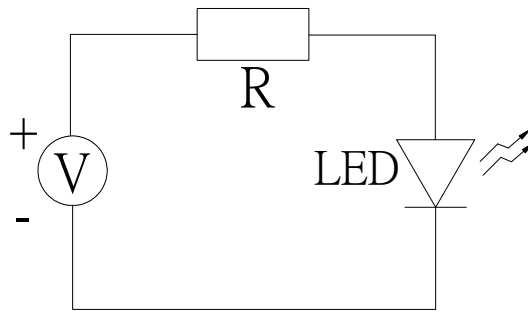
1. Customer must finish rework within 5 sec under  $260^{\circ}\text{C}$ .
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow solder etc.

## Test circuit and handling precautions

### ■ Test circuit



### ■ Handling precautions

#### 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 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : 5°C~30°C(41°F~86°F)

2.2 Shelf life in sealed bag: 12 month at <5°C~30°C and <30% R.H. after the package is Opened, the products should be used within a week or they should be keeping to stored at  $\leq 20$  R.H. with zip-lock sealed.

#### 3. Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1  $60 \pm 3^\circ\text{C}$  x(12~24hrs) and <5%RH, taped reel type

3.2  $100 \pm 3^\circ\text{C}$  x(45min~1hr), bulk type

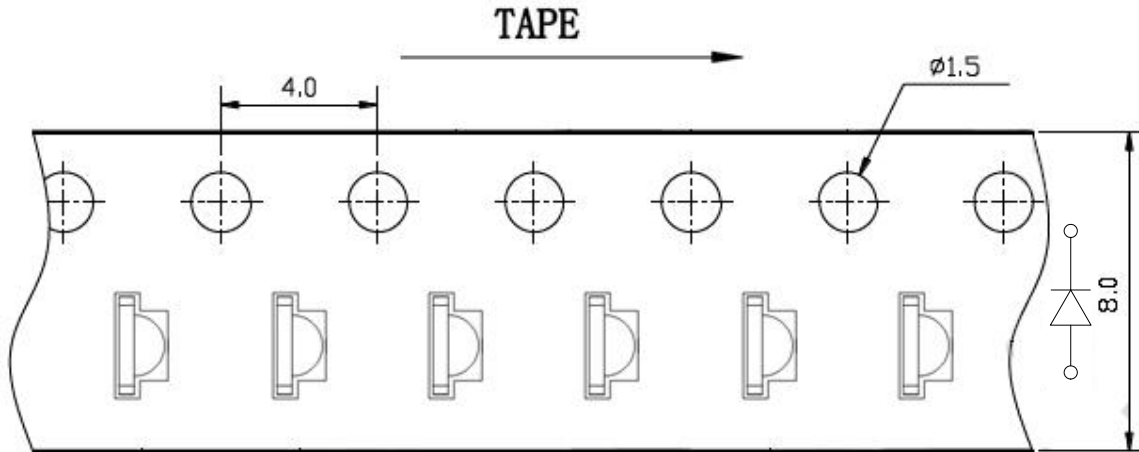
3.3  $130 \pm 3^\circ\text{C}$  x(15~30min), bulk type

Test items and results of reliability

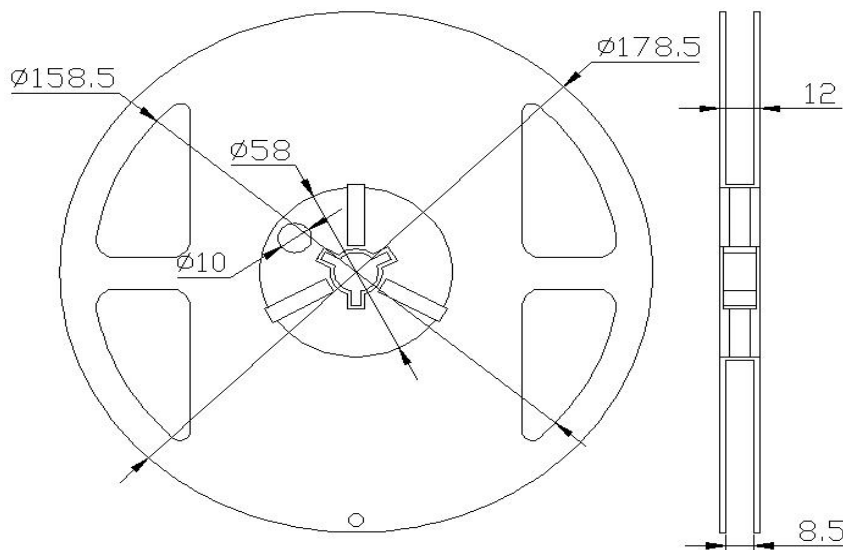
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ⇄ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	Ta=80°C	1000 hrs	0/22
	Humidity Heat Storage	Ta=60°C RH=90%	1000 hrs	0/22
	Low Temperature Storage	Ta=-30°C	1000 hrs	0/22
Operation Sequence	Life Test	Ta=25°C IF=20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=90% IF=10mA	500 hrs	0/22
	Low Temperature Life Test	Ta=-20°C IF=20mA	1000 hrs	0/22

### 3210 Series SMD Chip LED Lamps Packaging Specifications

- (1) The LEDs are packed in cardboard boxes after taping.
- (2) Taping Specifications      Units:mm      TOGIALED
- (3) . Manner of packing



#### (4) Reel Dimensions



PACKAGE:3000Pcs/Reel



