

# 承認書

## Specification For Approval

Customer: (客戶) \_\_\_\_\_

Description: (產品描述) SMDLED2012

Part number: (產品型號) TJ-S2012RW08A23HQYJYK6-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

2.0mm x 1.25mm SMT LED, 0.8mm thickness

Low power consumption TOGIALED

Wide view angle

Package: 3000pcs/reel

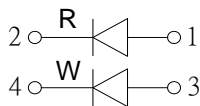
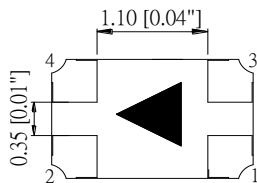
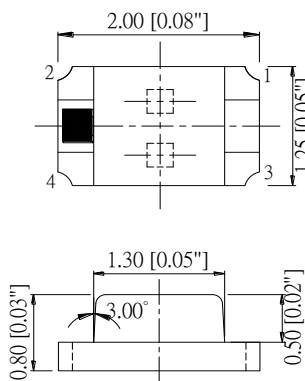
RoHS Compliant

### Applications

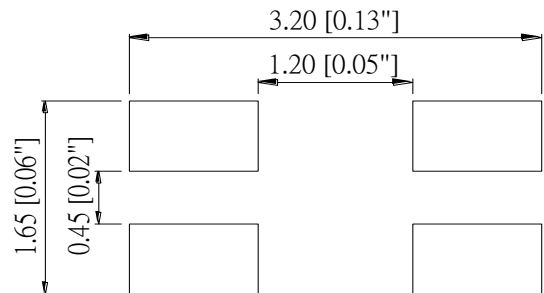
Ideal for back light and indicator

Various colors and lens types available

### Package outlines



### Recommend Pad Layout



Part No.	Emitted color	Dice	Lens color
TJ-S2012RW08A23HQYJYK6-A3	Red	AlGaInP	Yellow
	White	InGaIn/GaN	

### Notes:

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

**Absolute Maximum Ratings (TA=25°C)**

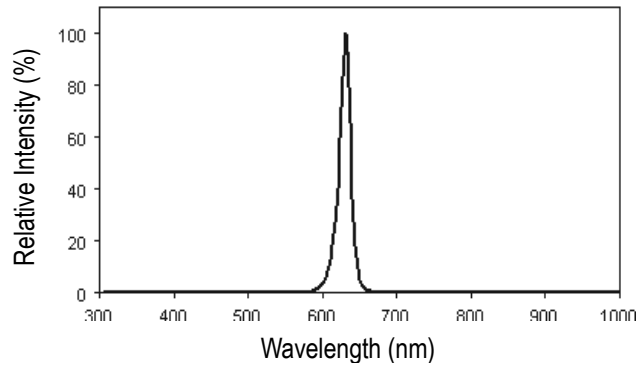
Parameter	Symbol	Value		Unit
		R	W	
Power dissipation	Pd	72	111	mW
Forward current	If	30		mA
Reverse voltage	Vr	5		V
Operating temperature	Top	-40 ~+80		°C
Storage temperature	Tstg	-40 ~+85		°C
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125		mA

**Electro-Optical Characteristics (TA=25°C)**

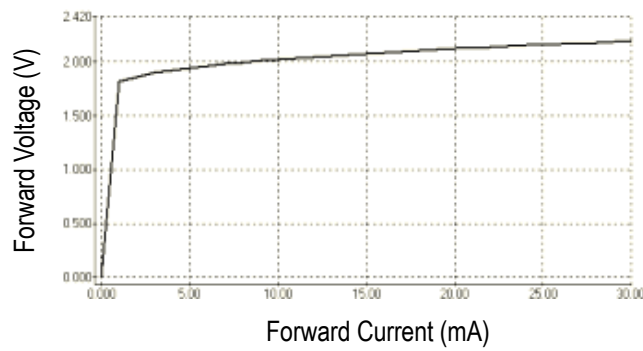
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	If=20mA	$\lambda_p$	--	630	--	nm
		$\lambda_w$	--	--	--	
Spectral half bandwidth	If=20mA	$\Delta\lambda$	--	18	--	nm
			--	--	--	
Dominant wavelength	If=20mA	$\lambda_d$	620	--	630	nm
			8000	--	16000	
Forward voltage	If=20mA	Vf	1.8	--	2.4	V
			2.8	--	3.4	
Luminous intensity	If=20mA	Iv	80	--	200	mcd
			400	--	800	
Viewing angle at 50% Iv	If=10mA	2θ 1/2	--	120	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	μA

### Optical Characteristic Curves (Red)

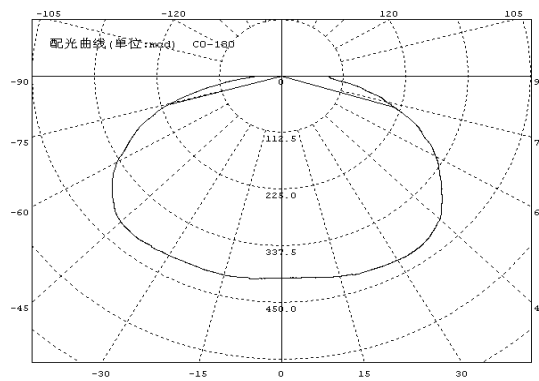
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage

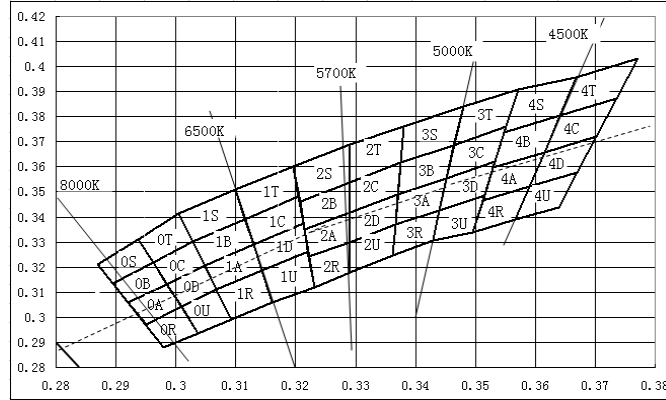


Directive Characteristics

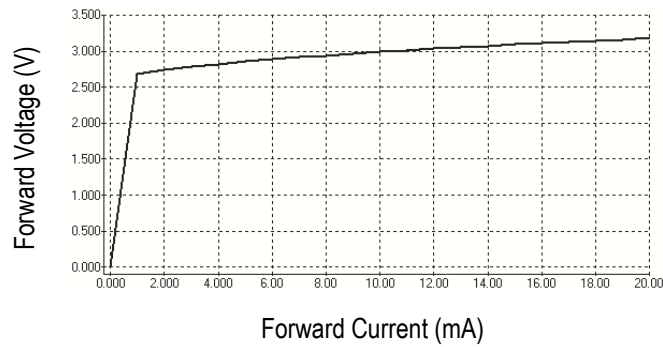


## Optical Characteristic Curves (White)

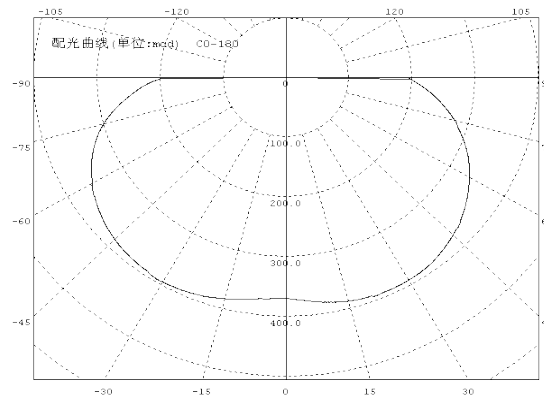
Relative color temperature corresponds to XY coordinates



Forward Current vs. Forward Voltage

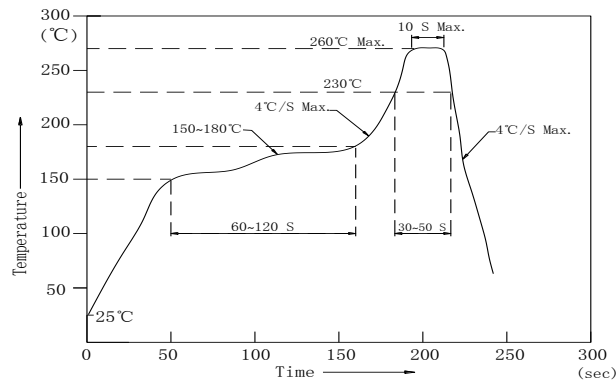


Directive Characteristics



## Reflow Profile

### ■ Reflow Temp/Time



### Notes:

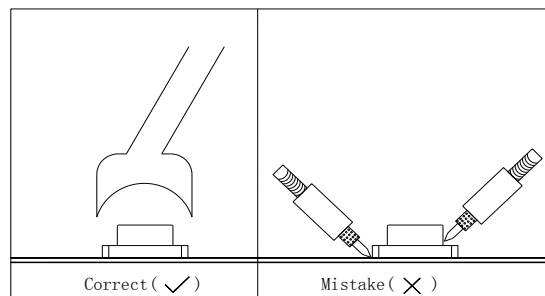
1. We recommend the reflow temperature 245°C (±5°C). the maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

Basic spec is ≤ 5sec when 320°C (±20°C). If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 350°C.

### ■ Rework

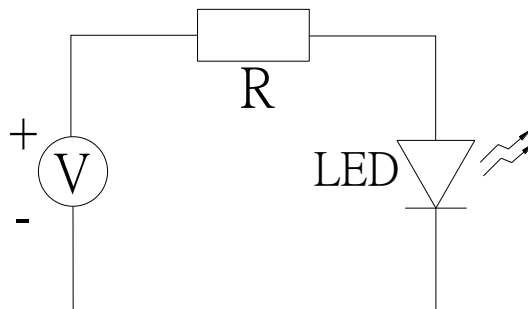
1. Customer must finish rework within 5 sec under 340°C.
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



- 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 <math>5^{\circ}\text{C}\sim 30^{\circ}\text{C}</math> and <math><30\%</math> 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 <math><5\%</math>RH, taped reel type

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

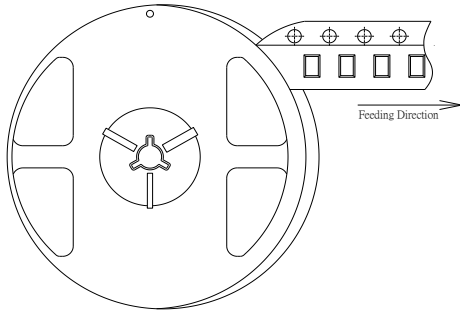
3.3  $130\pm 3^{\circ}\text{C}$  x(15~30min), bulk type

Test Items and Results of Reliability

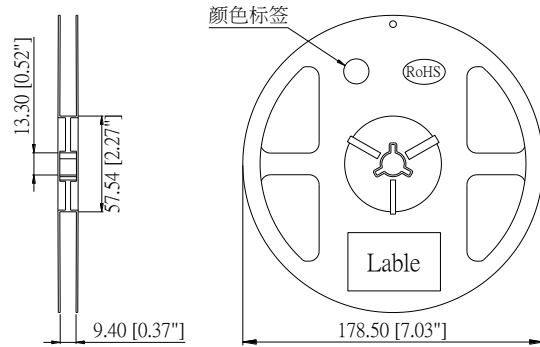
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-40°C 30min ↑ → (25°C/5min) ↓ 100°C 30min	100 cycle	0/22
	Thermal Shock	-40°C 15min ↑ ↓ 100°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	Ta=100°C	1000 hrs	0/22
	Humidity Heat Storage	Ta=60°C RH=95%	1000 hrs	0/22
	Low Temperature Storage	Ta=-40°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=95% IF=10mA	500 hrs	0/22
	Low Temperature Life Test	Ta=-20°C IF=20mA	1000 hrs	0/22

## 2012 Series SMD Chip LED Lamps Packaging Specifications

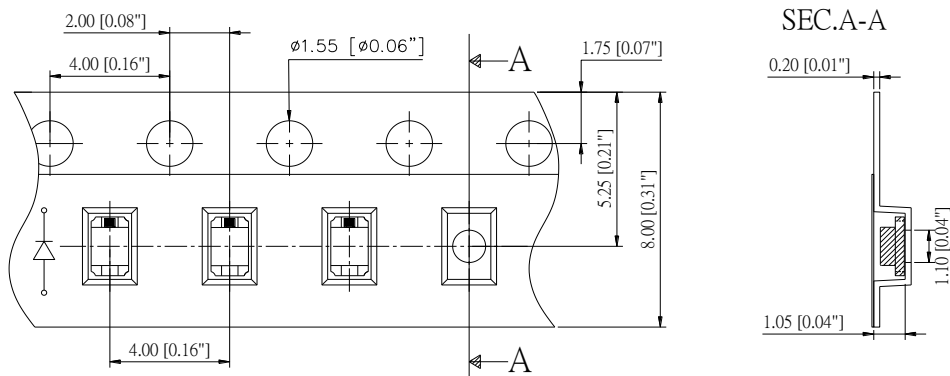
- Feeding Direction



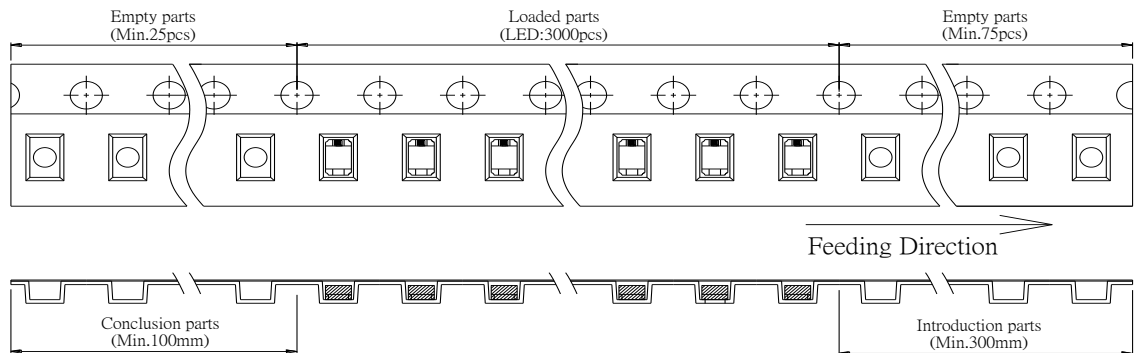
- Dimensions of Reel (Unit: mm)



- Dimensions of Tape (Unit: mm)



- Arrangement of Tape



### Notes:

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two;
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.
4. 3,000 pcs/Reel.

