

# Specifications for Approval

Customer Part No.:

Inhere Part No.:S3014CPUBT-005

Part Name: 3014 蓝光 LED

Spec Issue Date: 2018-06-27

Revision No.: A

To Customer:

We submit herewith the following information for your approval:

- Sample       OQC Inspection Record       LED Dimension  
 Electrical Characteristics Curve       Internal Circuit Diagram  
 Soldering recommendation

Prepared by: Lily  
Date: 2018-06-27

Checked by: Wuguangfei  
Date: 2018-06-27

Approved by: Ruiyandan  
Date: 2018-06-27

Customer Opinion

- Approve and no objection  
 Reject with the following reason:

**inhere**  *light for your mind*  
银河光电

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## Features

3.0mm x 1.4mm LED, 0.75mm thickness

Low power consumption

Wide view angle

Package: 4000pcs/reel

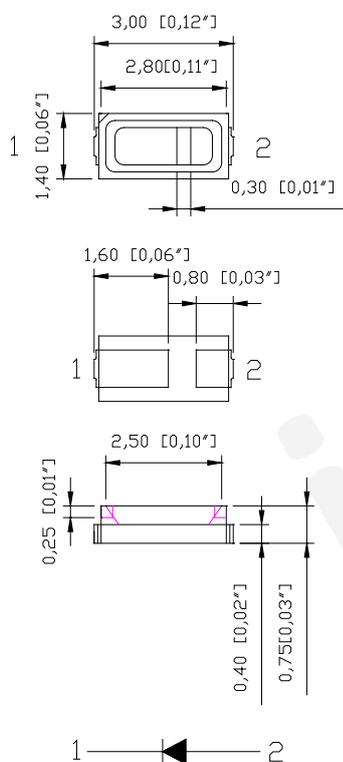
RoHS Compliant

## Applications

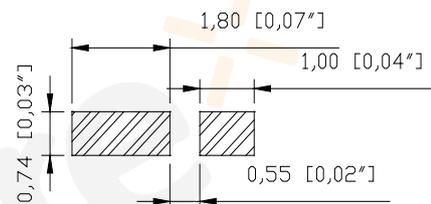
Ideal for back light and indicator

Various colors and lens types available

## Package outlines



## Recommend Pad Layout



Part No.	Emitted color	Dice	Lens color
S3014CPUBT-005	Blue	InGaN/GaN	Water transparent

### Notes:

All dimensions are in millimeters (inches);

Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.

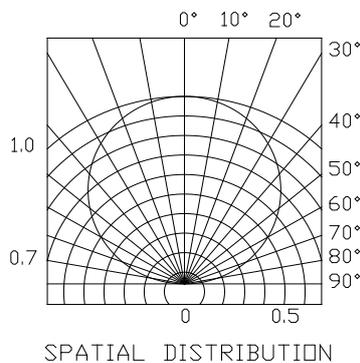
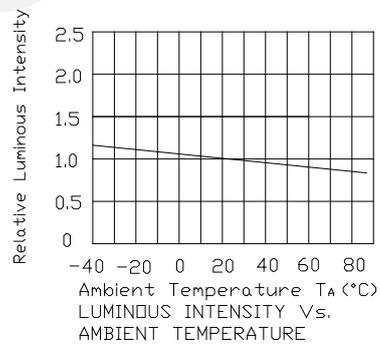
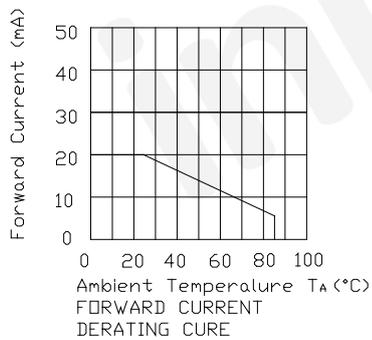
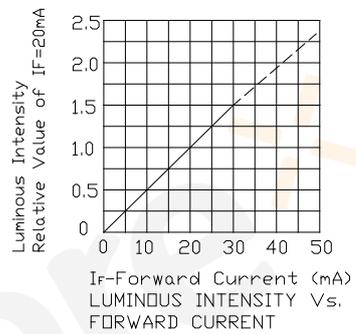
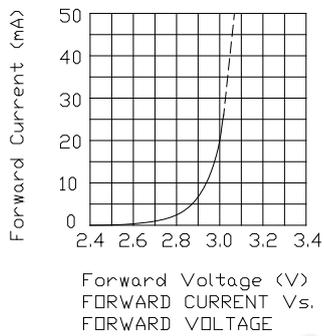
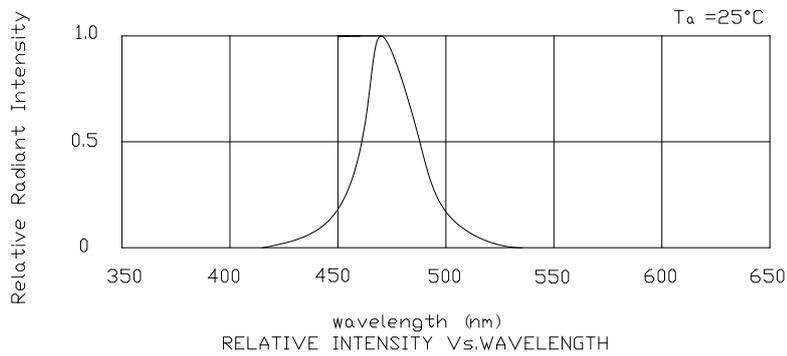
**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Value	Unit
Forward current	If	30	mA
Reverse voltage	Vr	5	V
Power dissipation	Pd	108	mW
Operating temperature	Top	-40 ~+85	°C
Storage temperature	Tstg	-40 ~+85	°C
Peak pulsing current (1/10 duty f=1kHz)	Ifp	100	mA

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

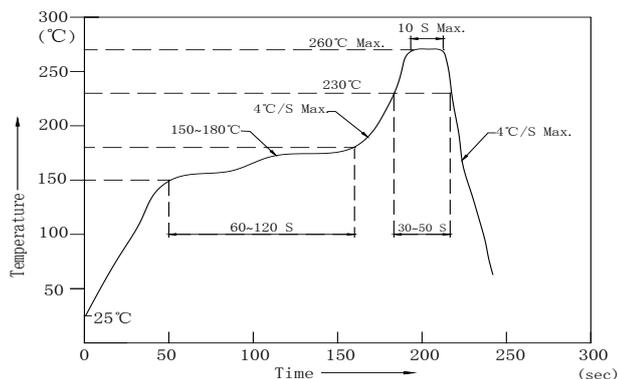
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	If=20mA	$\lambda_p$		464		nm
Spectral half bandwidth	If=20mA	$\Delta\lambda$	--	21	--	nm
Dominant wavelength	If=20mA	$\lambda_d$	465	--	475	nm
Forward voltage	If=20mA	Vf	2.8	--	3.6	V
Luminous intensity	If=20mA	Iv	250	385	--	mcd
Viewing angle at 50% Iv	If=20mA	2 $\theta$ 1/2	--	120	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	$\mu$ A

# Optical characteristic curves



## Reflow Profile

### ■ Reflow Temp/Time



### Notes:

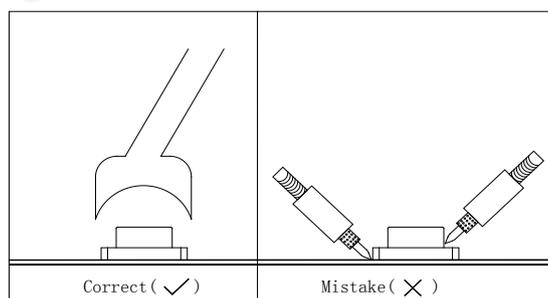
1. We recommend the reflow temperature 245°C (±5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

Basic spec is  $\leq 5\text{sec}$  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

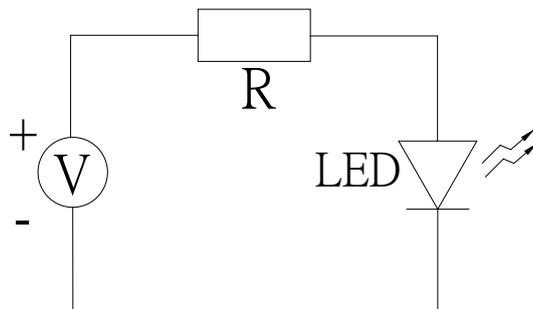
1. Customer must finish rework within 5 sec under 340°C.
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



- 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

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 24hrs or they should be keeping to stored at  $\leq 20$  R.H. with zip-lock sealed.

#### 3. Baking

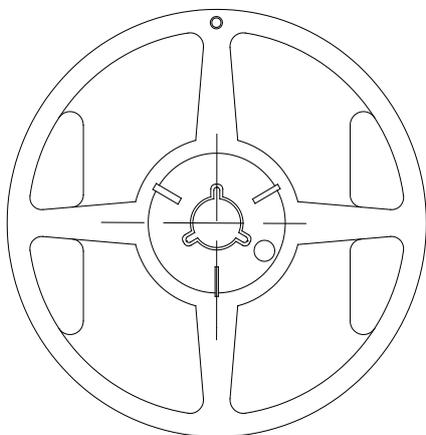
It is recommended to baking before soldering. The Conditions is:  $60\pm 5^{\circ}\text{C}/24\text{hrs}$

**Test Items and Results of Reliability**

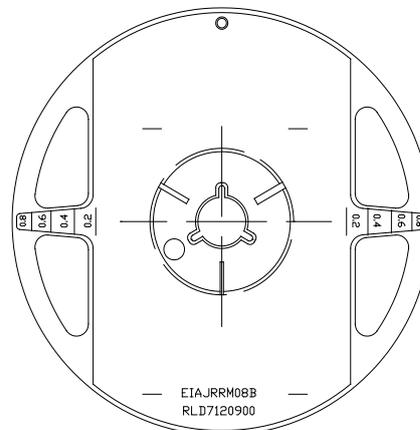
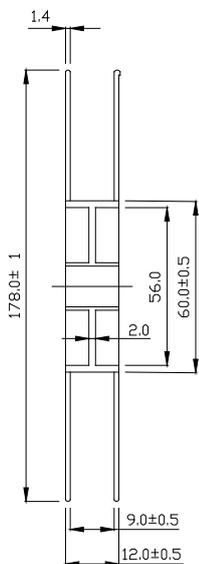
Test Item	Test Conditions	Standard Test Method	Note	Number of Test
Reflow Soldering	Ta=260±5℃,Time=10±2S	JB/T 10845-2008	3times	0/22
Salt Atmosphere	Ta=35±3℃,PH=6.5~7.2	GB/T 2423.17-2008	24hrs	0/22
Temperature Cycling	-40±5℃ 30±1min ↑→(25℃/5±1min)↓ 100±5℃ 30±1min	GB/T 2423.22-2012	100cycles	0/22
Thermal Shock	Ta=-40±5℃~100±5℃, 15±1min dwell	GB/T 2423.22-2012	100cycles	0/22
High Humidity High Temp. Cycling	Ta=30±5℃~65±5℃, 90±5%RH,24hrs/1cycle	GB/T 2423.4-2008	10cycles	0/22
High Humidity High Temp. Storage Life	Ta=85±5℃,ψ(%)=85±5%RH	GB/T 2423.3-2006	1000hrs	0/22
High Temperature Storage Life	Ta=100±5℃,non-operating	GB/T 2423.2-2008	1000hrs	0/22
Low Temperature Storage Life	Ta=-40±5℃,non-operating	GB/T 2423.1-2008	1000hrs	0/22
Life Test	Ta=26±5℃,@20mA, ψ(%)=25%RH~55%RH	--	1000hrs	0/22
High Humidity High Temp. Operating Life	Ta=85±5℃,@20mA, ψ(%)=85%RH	GB/T 2423.3-2006	500hrs	0/22
Low Temperature Operating Life	Ta=-20±5℃,@20mA	GB/T 2423.1-2008	1000hrs	0/22

### 3014 Series SMD Top LED Lamps Packaging Specifications

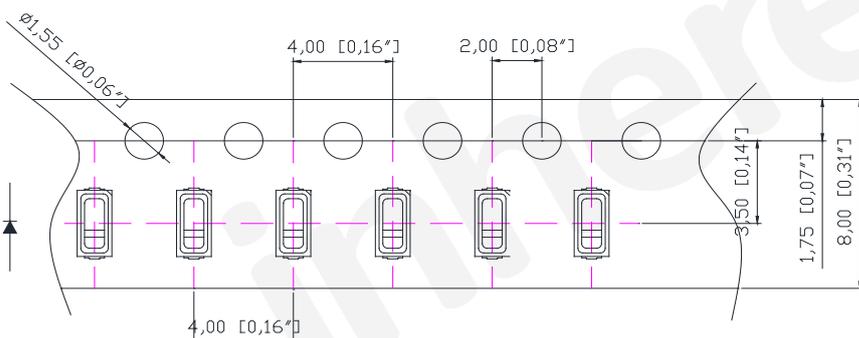
● Feeding Direction



● Dimensions of Reel (Unit: mm)



● Dimensions of Tape (Unit: mm)



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. 4,000pcs/Reel.

