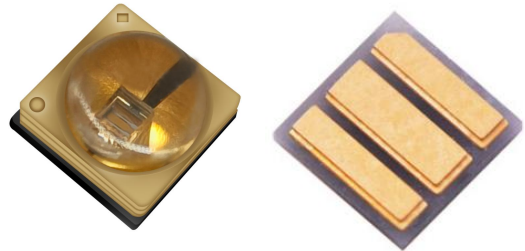


# CXST® LC

PART NUMBER: ST-S3535  
ORDER CODE: W1V6R23C3L



	<b>CAUTION</b>
	<ul style="list-style-type: none"><li>• LEDs emit very strong UV radiation.</li><li>• Don't look directly into the LED light. UV radiation can harm your eyes.</li><li>• To prevent even inadequate exposure, wear protective eyewear.</li><li>• If LEDs are embedded in devices, please indicate warning labels against the UV light LED used.</li><li>• Keep out of reach of children.</li><li>• Specification and dimension are subject to change for improvement without notice.</li></ul>

## Product Brief

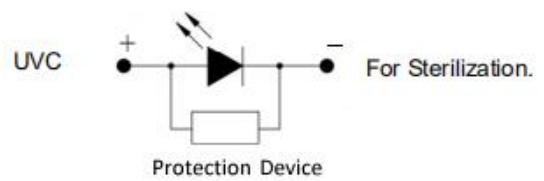
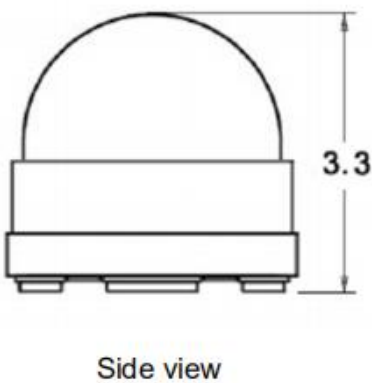
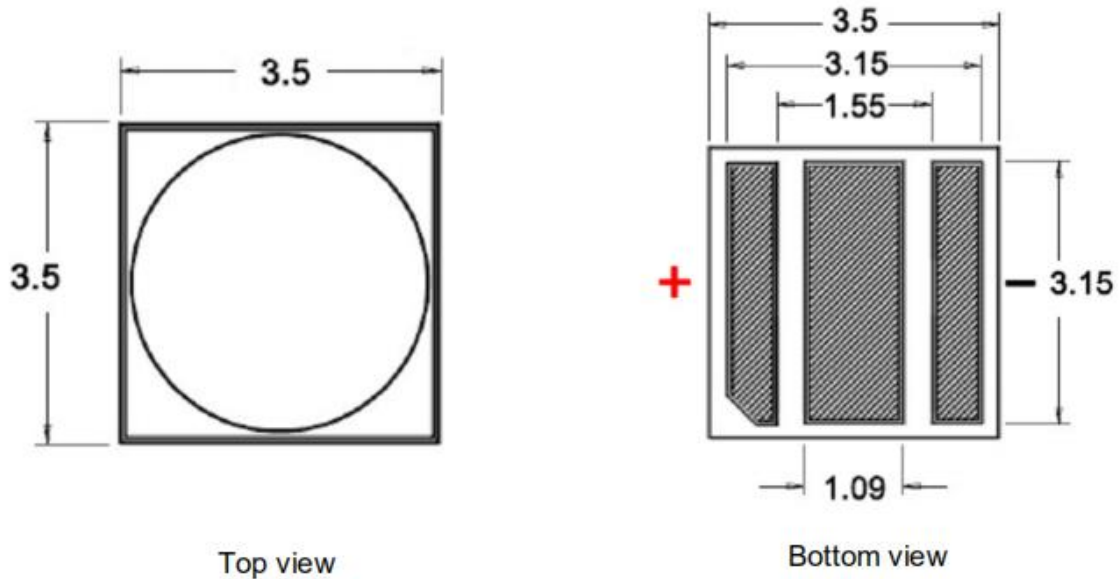
### Features And Benefits

- 3535 UVC 1W
- All Metal Design Cu Substrate/ ALN reflector
- Low thermal resistance
- SMT solderable
- Dimensions: 3.5mm \* 3.5mm \* 3.3mm

### Application

- Ultraviolet Disinfection
- Chemical and Biological analysis
- Other Special Applications

**1.Outline Dimensions**



Notes:

- 1. Drawings are not to scale.
- 2. All dimensions are in millimeters.
- 3. Tolerance:  $\pm 0.20$ mm.

### 3. Optical Parameters @ Ta=25°C

#### Absolute Maximum Ratings

TA=25°C

PARAMETER	SYMBOL	MAXIMUM PERFORMANCE
Power Dissipation	$P_D$	1W
Forward Current	$I_F$	100mA
Peak Forward Current	$I_{FP}$	150mA
Thermal Resistance, Junction-Case	$R_{th, J-C1}$	15°C/W
Operating Temperature Range	$T_{opr}$	-40 ~ +60°C
Storage Temperature Range	$T_{stg}$	-40 ~ +100°C
Soldering Condition	$T_{sol}$	230°C for 5 Seconds

Note: The Thermal Resistance value is measured with MCPCB(Star).

#### Electrical -Optical Characteristics

TA=25°C

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Peak Wavelength	---	$\lambda_p$	---	270	280	nm
Radiation Flux	$I_F=100mA$	$\Phi_e$	---	23	28	mW
Radiant Irradiance	$I_F=100mA$	$E_e$	---	3.5	---	mW/cm <sup>2</sup>
Forward Voltage	$I_F=100mA$	$V_F$	5	6	7	V
Viewing Angle	---	$2\theta_{1/2}$	---	---	60	deg.
LED Junction Temperature	---	$T_j$	---	60	80	°C
Spectrum Half -Width	---	$\Delta\lambda$	---	15	---	nm

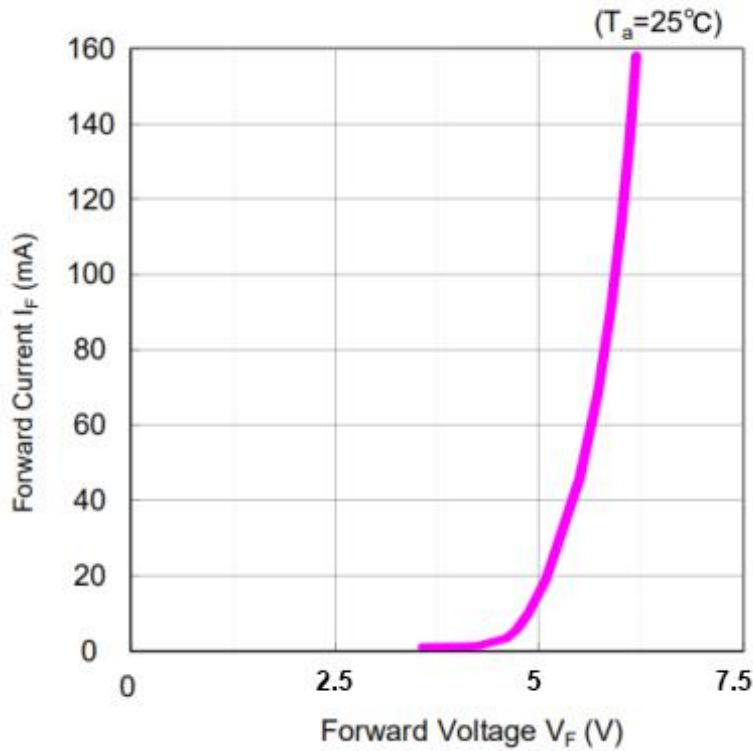
Note: The test tolerance.

 $V_F: \pm 0.2V$     $\Phi_v: \pm 10\%$     $\pm 3nm$ 

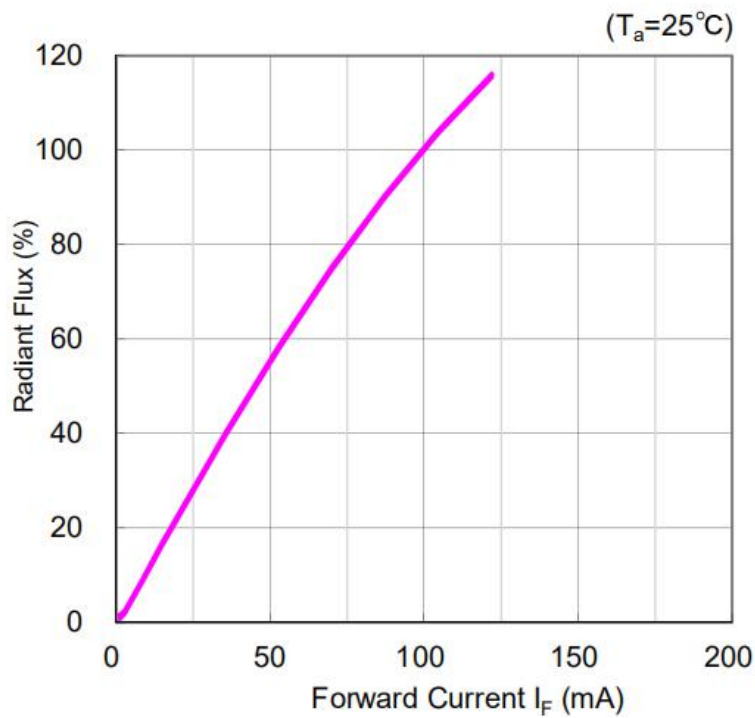
Irradiance tested at a distance 10mm from Al reflector

**5. Typical Electrical/Optical Characteristic Curves (If=100mA, TA=25°C)**

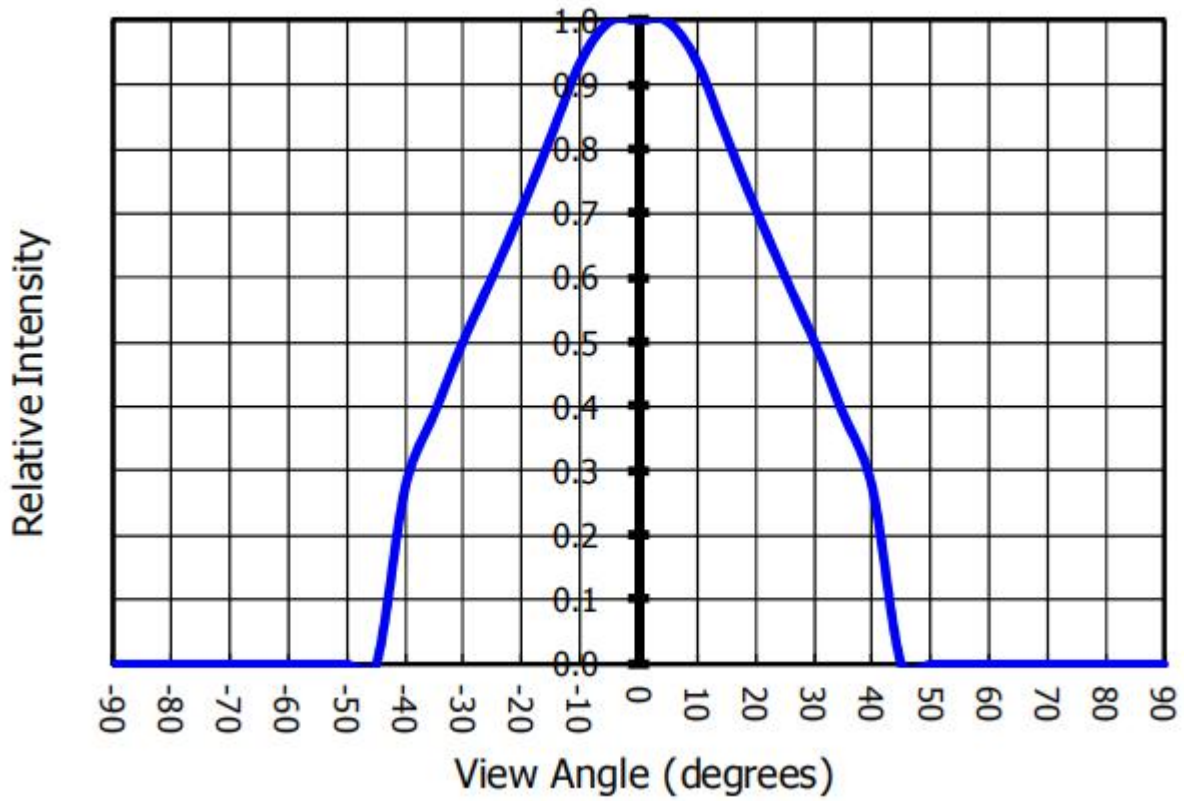
**Forward Voltage VS Forward Current**



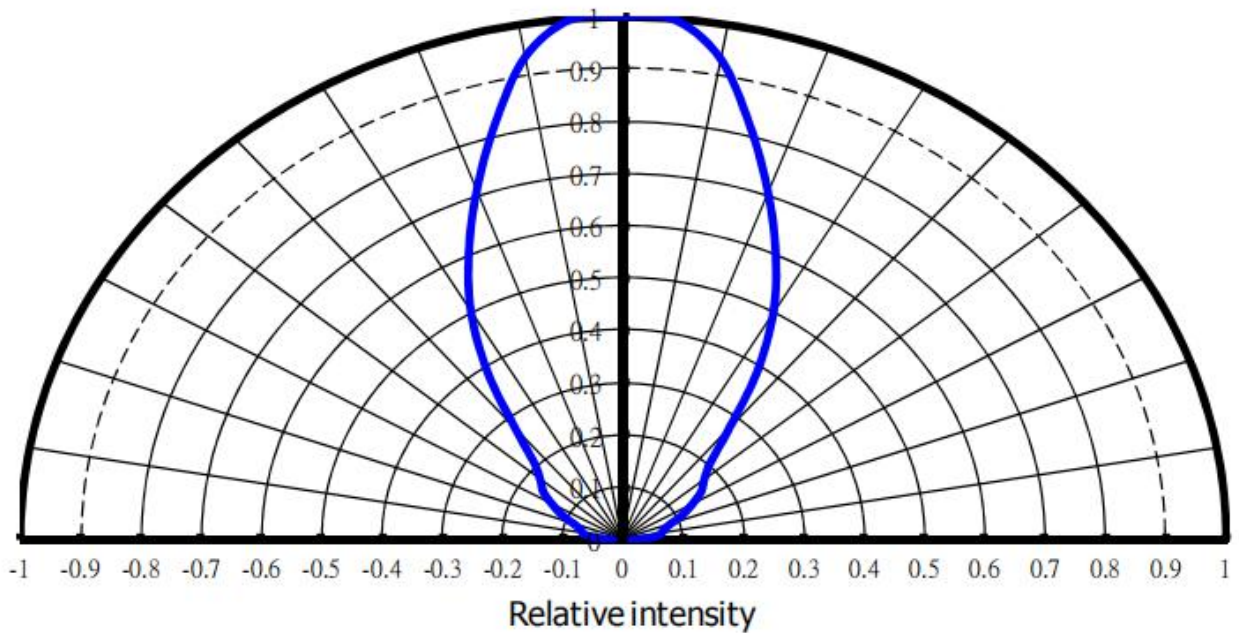
**Forward Current VS Relative Intensity**



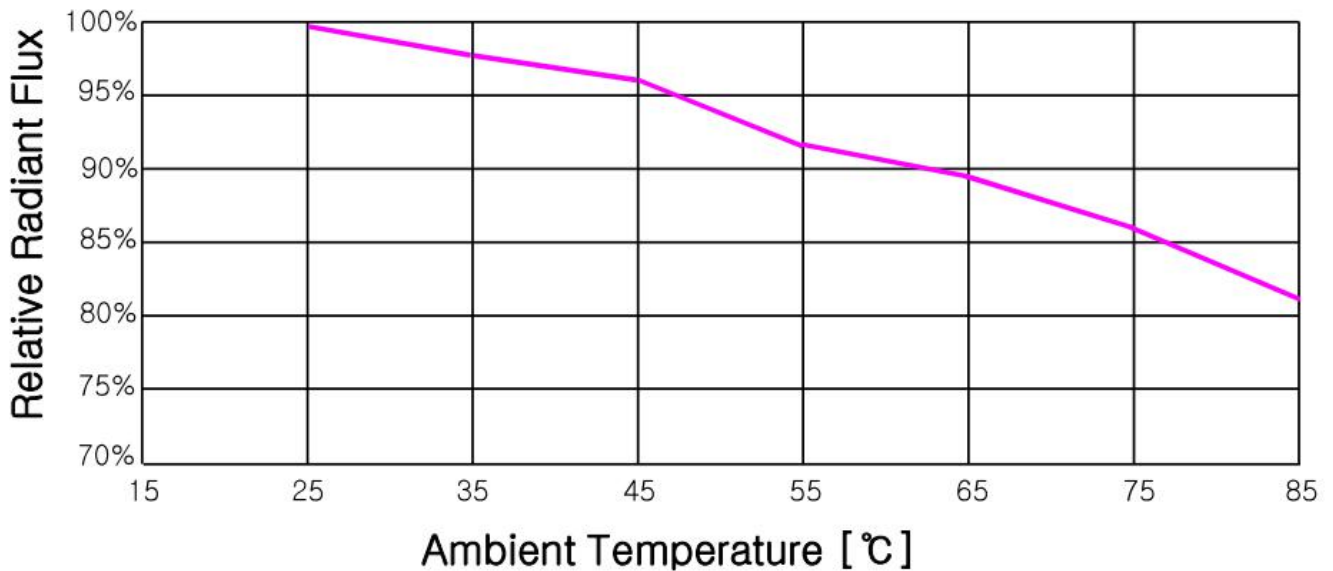
**Spatial Raidation Pattern**



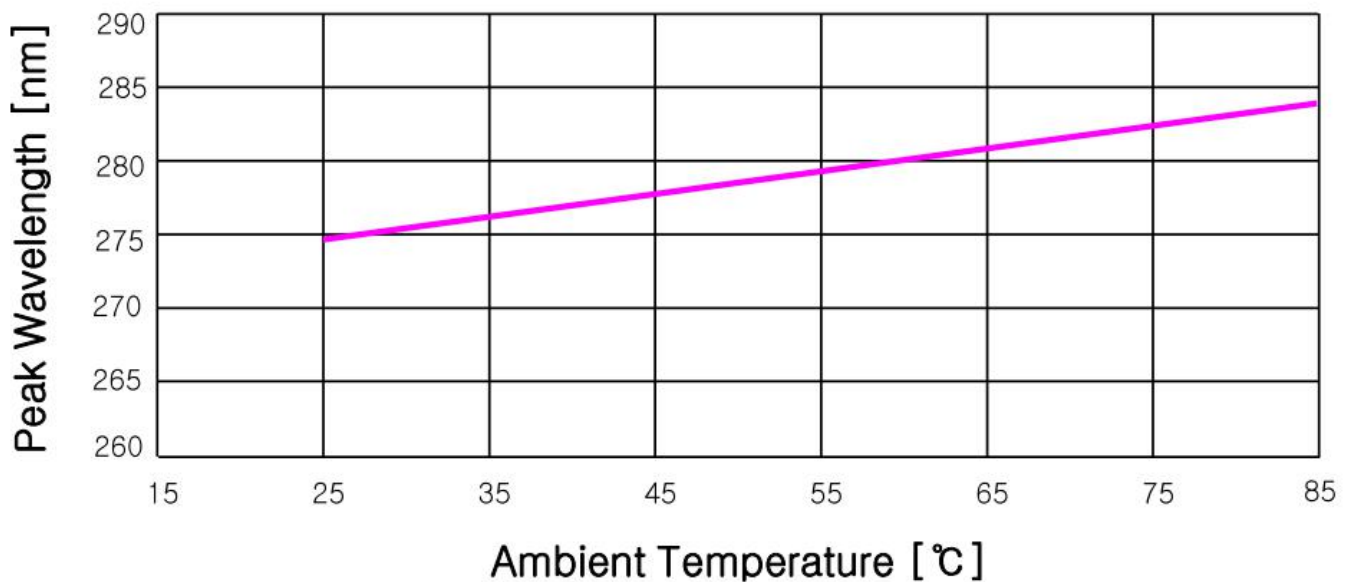
**Spatial Radiation Pattern**



**Ambient Temperature vs. Relative Radiant Flux( IF=100mA)**



**Peak Wavelength vs. Ambient Temperature(IF=100mA)**



## 6. Reliability

### Test Item And Results

ITEM	TEST CONDITION	NOTE	NUMBER OF DAMAGED
Reflow	Temp: 260°C Max T=10sec	2 time	0/30
Thermal Shock	-40~100°C 30min, 10s, 30min	100 cycles	0/30
High Temperature High Humidity Storage	Ta=60°C, RH=90%	300 hrs	0/30
Steady State Operating Life	Ta=25°C, IF=150mA	1000 hrs	0/30
Steady State Operating Life Of High Humidity Heat	Ta=60°C, RH=90%, IF=150mA	1000 hrs	0/30
High Temperature Storage	Ta=100°C	1000 hrs	0/30
Low Temperature Storage	Ta=-40°C	1000 hrs	0/30

### Test Item And Results

ITEM	SYMBOL	TEST CONDITION	ITEM	
			MIN.	MAX.
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =100mA	--	U.S.L*)x1.1
Radiation Power	mW	I <sub>F</sub> =100mA	L.S.L*)x0.7	--
Reverse Current	I <sub>R</sub>	V <sub>R</sub> -3V	--	U.S.L*)x2.0

U.S.L: Upper standard level      L.S.L: Lower standard level

The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.

## 7.Packing Standard

### Label

Model-Model Number

Power-Wattage

Chip-Chip Brand&Chip Size

IF-Forward Current

VF-Range Of Forward Voltage

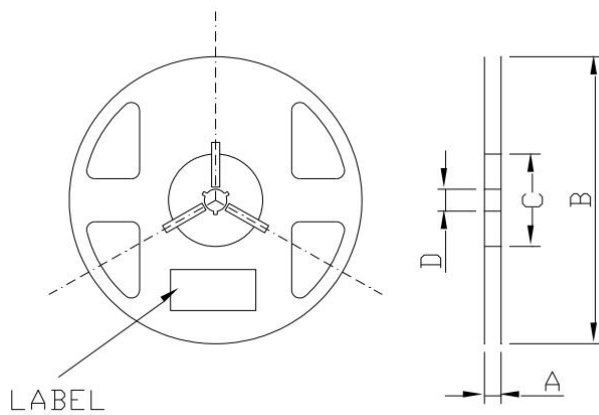
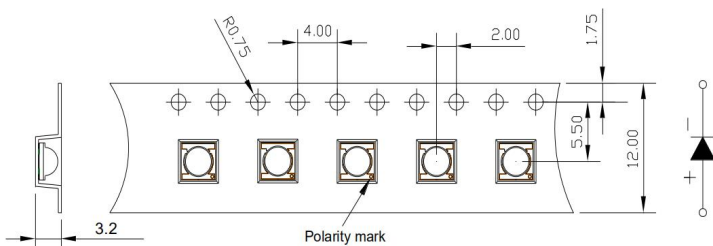
IV $\Phi$ <sub>v</sub>-Range Of Luminance/Lumen

WL.-Wavelength

QTY--(Quantity)

SANTANG LIGHTING			
Model			
Power		Chip	
IF		VF	
IV $\Phi$ <sub>v</sub>		WL.	
Ra		QTY	
2017-08-08			

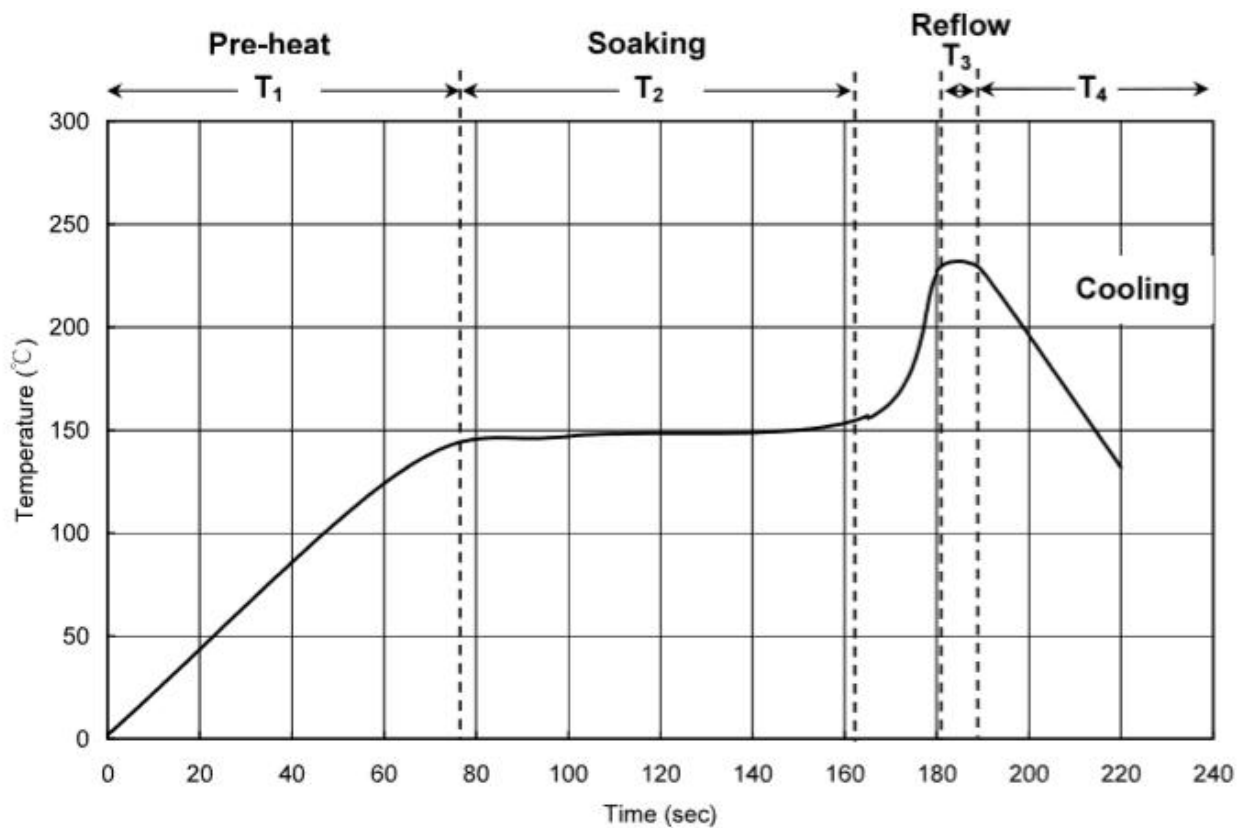
### Packing



PACKING	DETAILS	
	ROLL	TUBE
QTY	4000pcs	1Reel



## 8.SMT Reflow Soldering Instructions



T1	Ramp up rate	1.0-3.0 °C / Sec
	Pre-heat time	50-80 sec
T2	Soaking temperature	155-185 °C
	Dwell time during soaking	60-120 S
T3	Reflow temperature	220-230 °C
	Reflow time	Max 10 sec
	Ramp up rate during reflow	1.2-2.3 °C/sec
T4	Cooling	1.0-6.0 °C/sec

1.Reflow soldering should not be done more than two times. In the case of more than 24 hours passed soldering after first, LEDs will be damaged.

2.When soldering , do not put stress on the LEDs during heating .

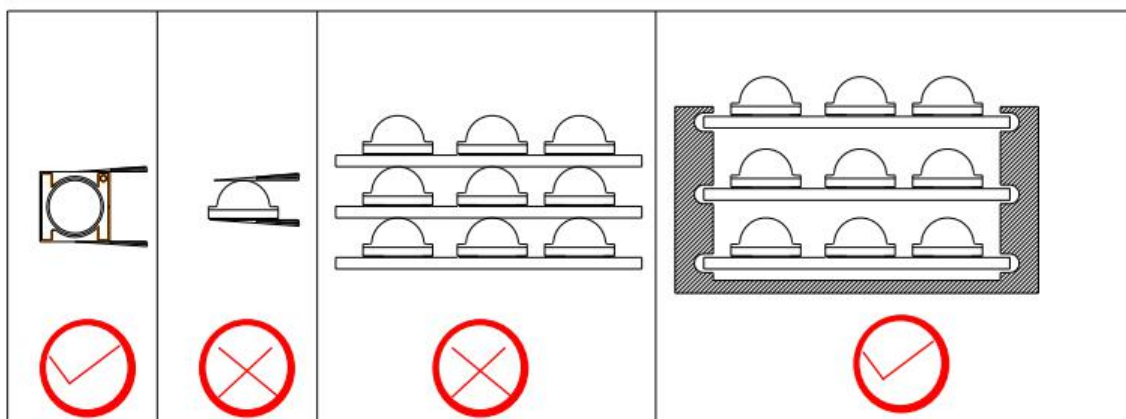
4.Suggest using Sn96Ag3Cu0.5 lead free solder.

### Cautions

1. The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper.
2. Components should not be mounted on warped(non coplanar) portion of PCB. After soldering, do not warp the circuit board.
3. Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering.

### Handling Precautions

- 1>.LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material. This is provided for informational purposes only and is not a warranty or endorsement.
- 2>.In order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM, the single content of Bromine element is required to be less than 900PPM, the single content of Chlorine element is required to be less than 900PPM, the total content of Bromine element and Chlorine element in the external materials of the application products is required to be less then 1500PPM. This is provided for informational purposes only and is not a warranty or endorsemen.
- 3>VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can be prevent these issues. Advises against the use of performance or reliability. To verify compatibility. Recommends that all chemicals and materials be tested in the specific application and environment for which they are intended to be used. Attaching LEDs, do no use adhesives that outgas organic vapor.
- 4>.Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry.



5>.In designing a circuit,the current through each LED must be exceed the absolute maximum rating specified for each LED.In the meanwhile,resistors for protection should be applied,otherwise slight voltage shift will cause big current change, burn our may happen. The driving circuit must be designed to allow forward voltage only when it is ON or OFF.If the reverse voltage is applied to LED, migration can be generated resulting in LED damage.

6>.Thermal Design is paramount importance because heat generation may result in the Characteristics decline,such as brightness decreased,Color change and so on.Please consider the heat generation of the LEDs when making the system design.

7>Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust, requiring special care during processing. In cases where a minimal level of dirt and dust particles cannot be guaranteed, a suitable cleaning solution must be applied to the surface after the soldering of components. We suggest using isopropyl alcohol for cleaning. In case other solvents are used, it must be assured that these solvents do not dissolve the package or resin. Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED.

8> To avoid the moisture penetration, we recommend store in a dry box with a desiccant. The recommended storage temperature range is 5°C to 30°C and a maximum humidity of RH50%. If the color of the desiccant changes, components should be dried for 10-12hrs at  $6 \pm 5^\circ\text{C}$ .

9>Similar to most Solid state devices; LEDs are sensitive to Electro-Static Discharge (ESD) and Electrical Over Stress (EOS).

10> When the UV led is lighting, users must not look straight at the UV leds, or, the UV light will damage your eyes permanently;When it lighting a long time , human or other animals must keep away from it ,only if they put on the UV protective(including your eyes).

## 9. DISCLAIMER

*The specifications, characteristics, and technical data presented in this datasheet are subject to change without prior notice.*

*It is recommended that the most updated specifications, characteristics, and technical data be used in your application.*

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