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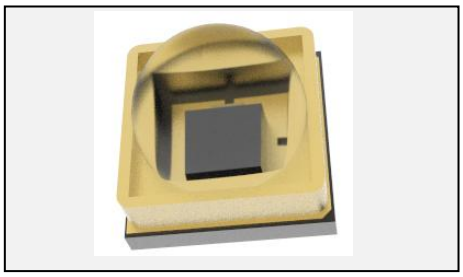
1. Description

1.1 General Description



This production has a hign reliability, good heat dissipation, are widely used in the disinfection, uv sterilization, Air purification, etc.

1.2 Features

- Size(mm):3.7*3.7*3.45.
- Viewing angle:60°.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Moisture sensitivity level: Level 3.
- RoHS compliant.

1.3 Application

- Ultraviolet disinfection.

  UV sterilization.

  Air purification.

  General use.

1.4 Package Dimension

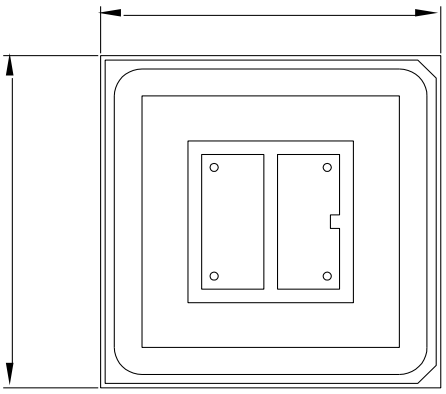


Fig.1-1 Top view

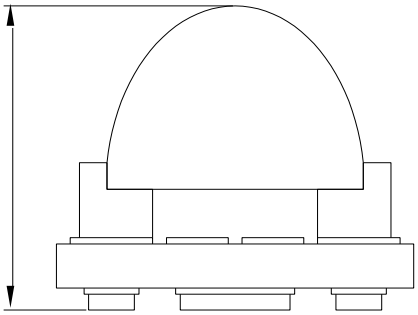


Fig.1-2 Side view

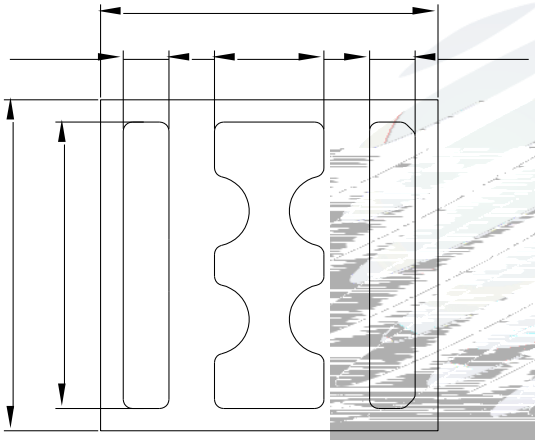


Fig.1-3 Bottom view

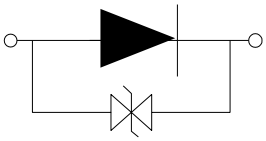


Fig.1-4 Polarity

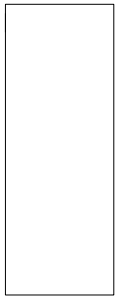


Fig.1-5 Soldering patterns

Notes

All dimensions units are millimeters.

All dimensions tolerances are ±0.2mm unless otherwise noted.

1.5 Product Parameters

Table 1-1 Electrical / Optical Characteristics at Ts=25°C

Item	Symbol	Test Condition	Code	Value			Unit
				Min.	Typ	Max.	
Forward Voltage	V_F	I_F=350mA	B19	4.6	---	4.8	V
			B20	4.8	---	5.0	
			B21	5.0	---	5.2	
			B22	5.2	---	5.4	
			B23	5.4	---	5.6	
			B24	5.6	---	5.8	
			B25	5.8	---	6.0	
			B26	6.0	---	6.2	
			B27	6.2	---	6.4	
			B28	6.4	---	6.6	
			B29	6.6	---	6.8	
			B30	6.8	---	7.0	
			B31	7.0	---	7.2	
			B32	7.2	---	7.4	
			B33	7.4	---	7.6	
Reverse Current	I_R	V_R=10V	---	---	---	5	uA
Total radiant flux	- e	I_F=350mA	1J07	25	---	30	mW
			1J08	30	30	35	
			1J09	35	---	40	
Peak wavelength	S	I_F=350mA	UA33	260	---		

Table 1-2 A olute Maximum Ratings at Ts=25°C

[redacted]

Notes

1. 1/10 Duty cycle, 0.1ms pulse width.
2. The above forward voltage measurement allowance tolerance is ±0.1V.
3. The above wavelenth measurement allowance tolerance is ±2nm. ±
4. The above radiation flux measurement allowance tolerance ±10%.
5. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.

[redacted]

1.6 Typical optical characteristics curves

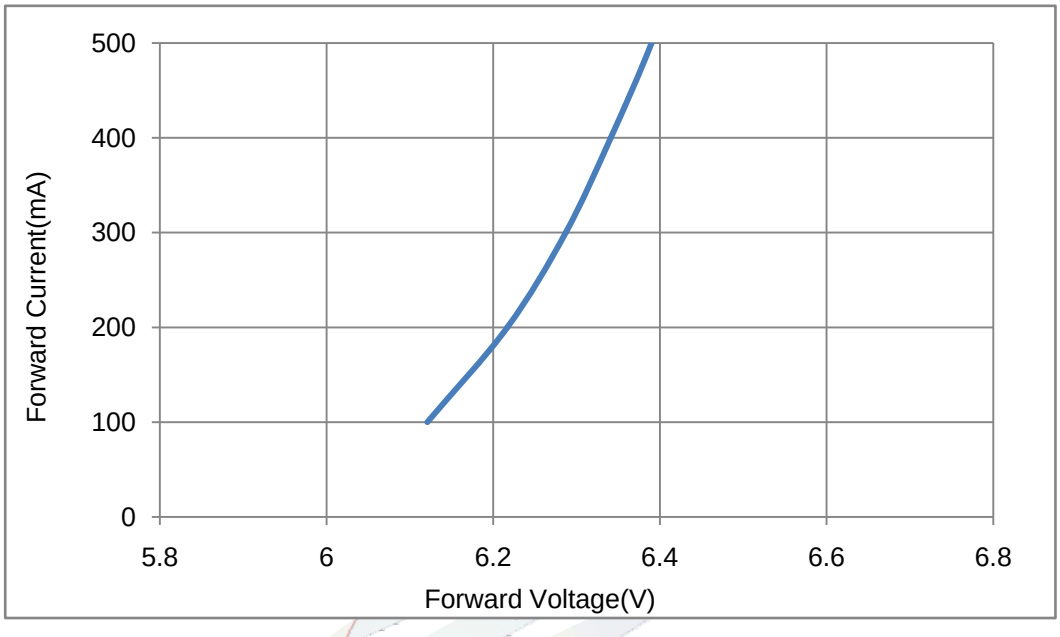


Fig.1- Forward Voltage Vs. Forward Current

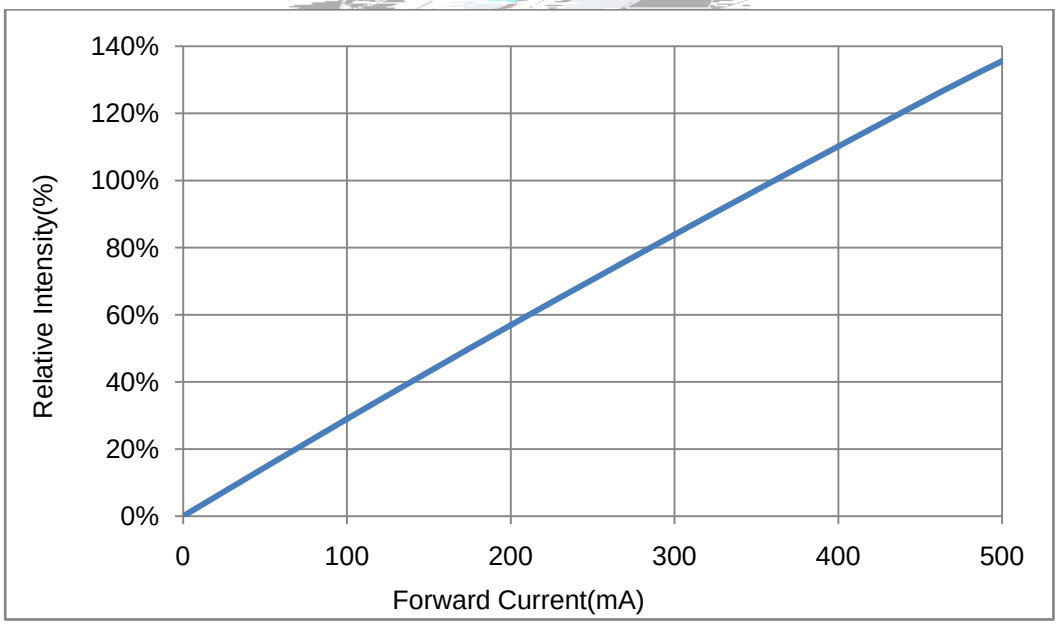


Fig.2- Forward Current Vs. Relative Power

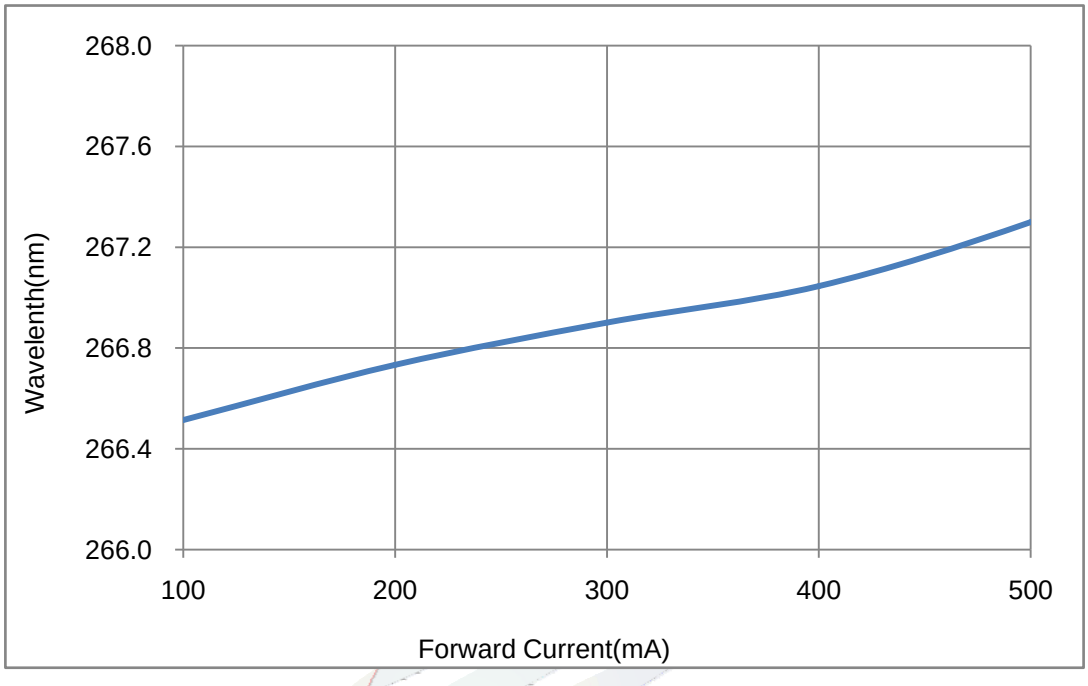
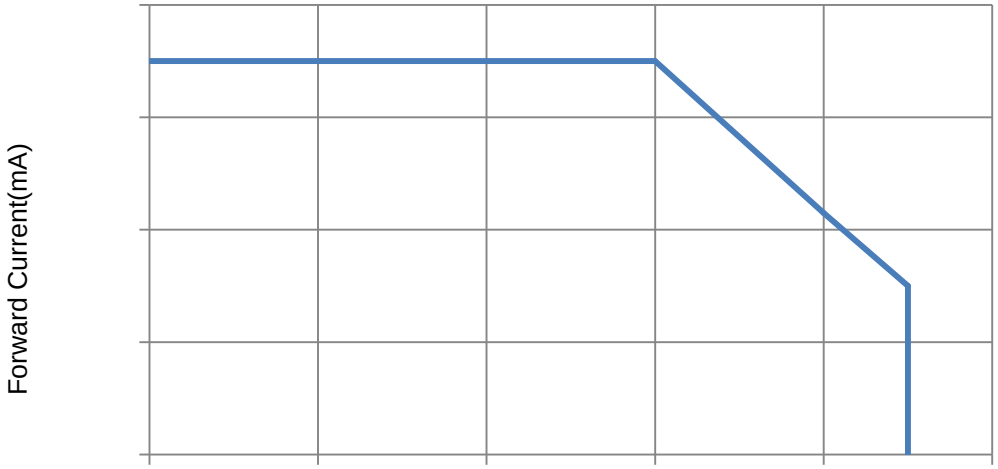


Fig.3- Peak Wavelength Vs. Forward Current



Ts(

Fig.4-Ts Temperature VS. Forward Current

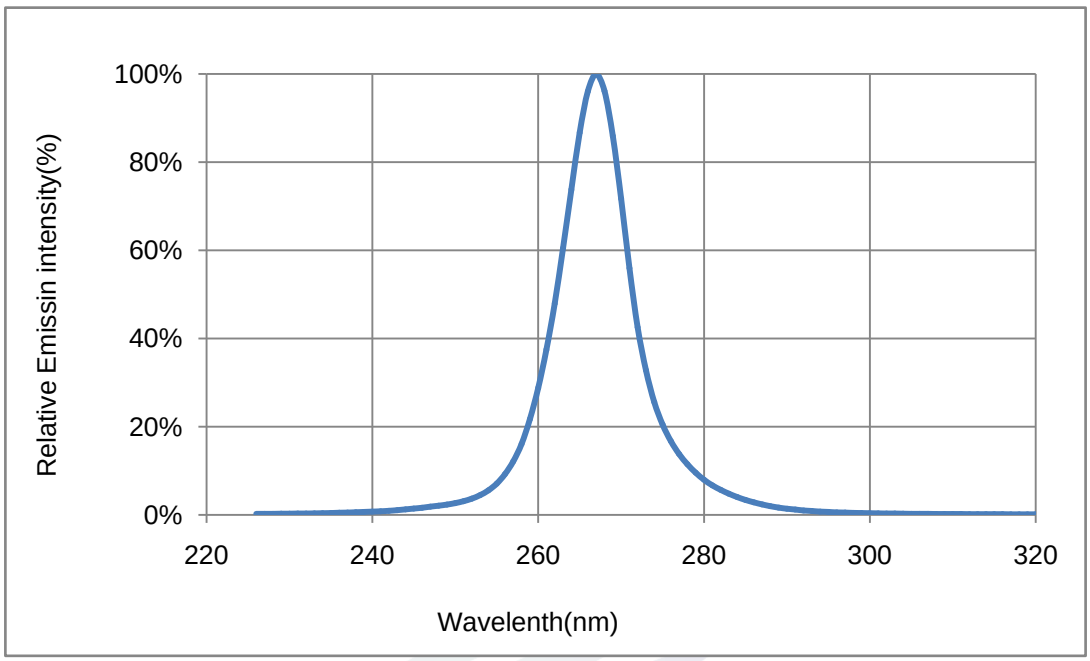


Fig.5-Spectrum Distribution

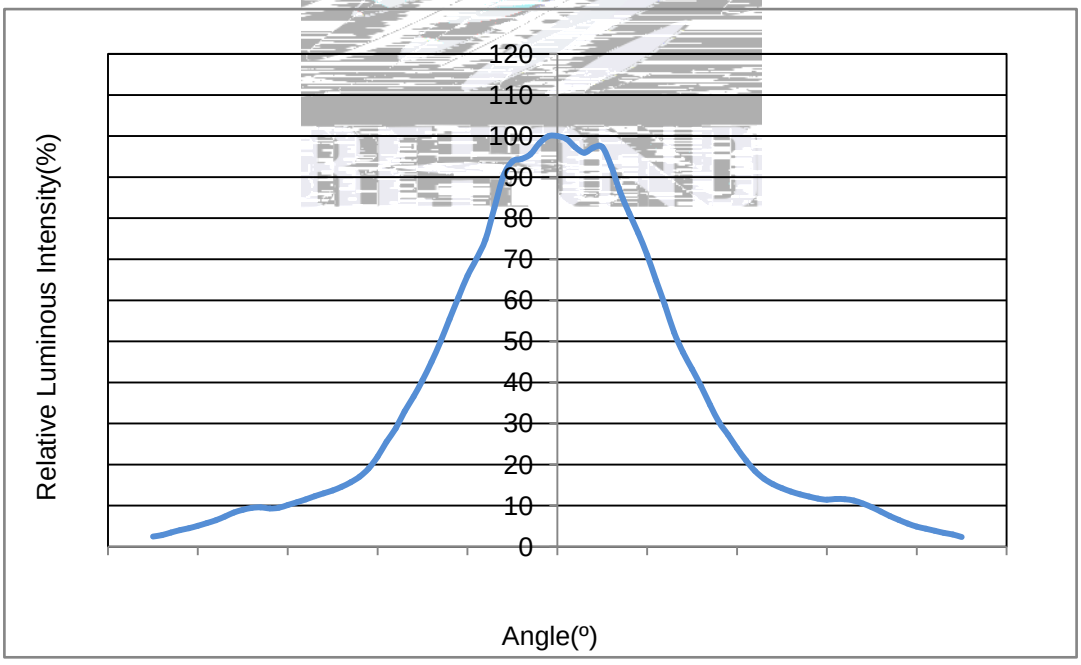


Fig.6- Radiation Diagram

2. Packaging

2.1 Packaging Specification

Package:500pcs/reel.

2.1.1 Carrier Tape Dimension

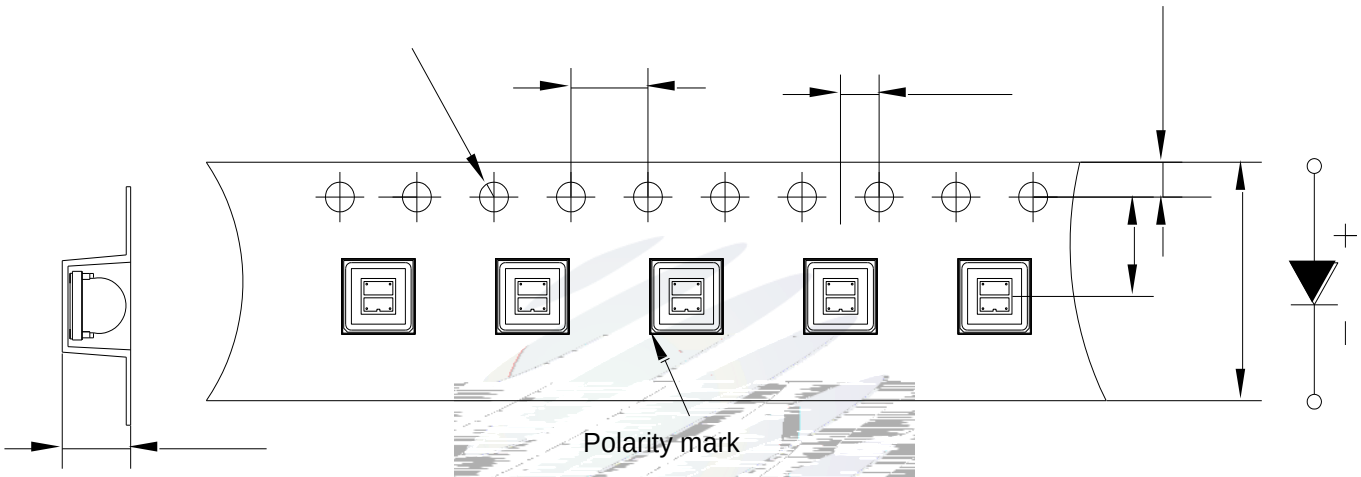


Fig.2-1 Carrier Tape Dimension

2.1.2 Reel Dimension

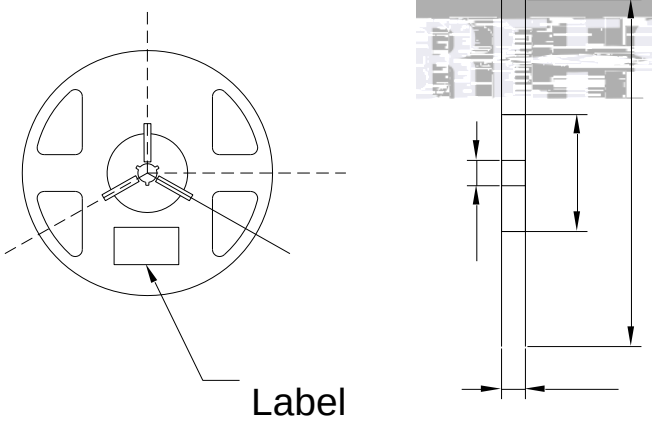


Fig.2-2 Reel Dimension

Reel Dimension

A	12 0.1mm
B	178 1mm
C	60 1mm
D	13.0 0.5mm

Notes

The tolerances unless mentioned ±0.1mm. Unit : mm

2.1.3 Label Form Specification

Label Form Specification

PART NO. Part Number

SPEC NO.

Fig. 2-3 Label Form Specification

2.2 Moisture Resistant Packing

Fig.2-4 Moisture Resistant Packing Process

3. SMT Reflow Soldering Instructions SMT 回流焊说明

3.1 SMT Reflow Soldering Instructions SMT

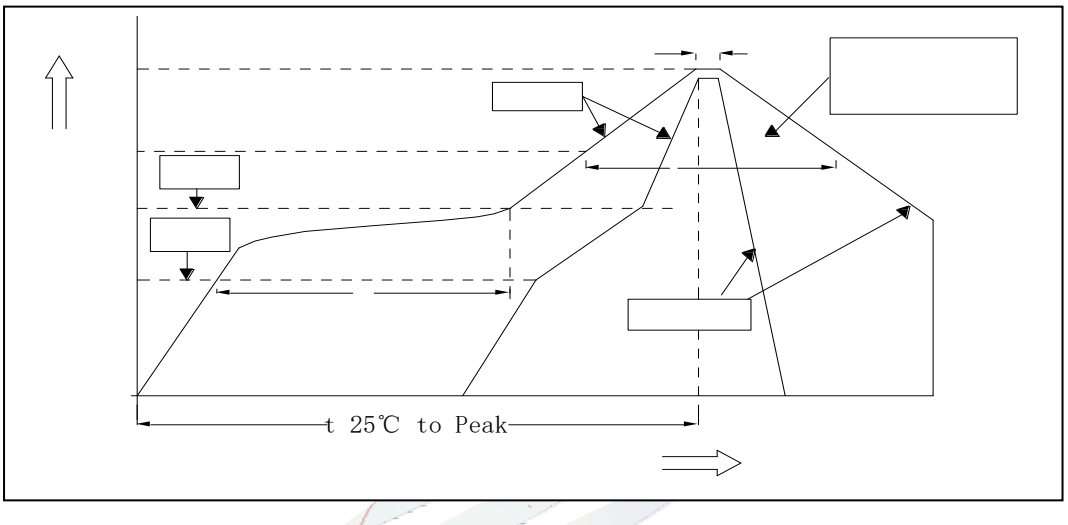


Fig.3-1 SMT Reflow Soldering Instructions

Table 3-1 SMT Reflow Soldering Instructions

Average temperature rise speed Tsmax T_P	Max 3 °C/ s 3 °C/
Preheating: minimum temperature (Tsmin)	150 °C
Preheating: Max temperature (Tsmax)	200 °C
Preheating: Time Tsmin Tsmax	60s-120s 60 - 120
Time limited to maintain high temperature: the temperature (T_L)	217 °C
Time limited to maintain high temperature: The Time (t_L)	Max 60s 60
Peak /Classification of temperature: / (T_P)	260 °C
Time limit classification of peak temperature time t_p	Max 10s 10
Hold time within 5 C with the actual peak temperature (TP) (T_P) 5 °C	Max 30s 30
Cooling speed	Max 6 °C/ s 6 °C/
Needed time from 25 °C to Tp 25 °C	Max 8 minutes 8

Notes

(1)Reflow soldering should not be done more than twice. If more than 24 hours between the two solderings , LED will be damaged.

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

3.1.1 Soldering Iron

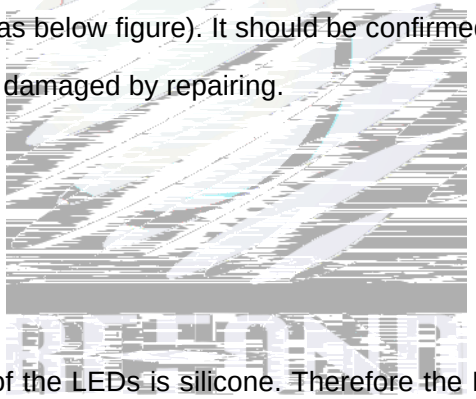
(1) When do soldering by hand, keep the temperature of iron below less 300 less than 3 seconds

(2) Soldering by hand should be done only one time.

3.1.2 Repairing

Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable,a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or not be damaged by repairing.

LED



3.1.3 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 impacted on the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when usethe picking up nozzle, the pressure on the silicone resin should be proper. LED

(2) Components should not be mounted on warped (non coplanar) portion of PCB. After soldering, do not warp the circuit board.LED

(3) Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering. Do not rapidly cool device after soldering.

4. Handling Precautions

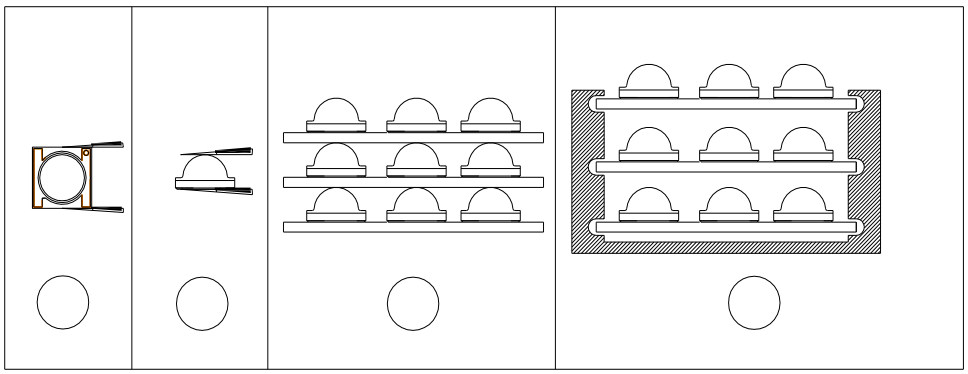


Fig 4-1 Operate Method

(5) In designing a circuit, the current through each LED can not 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 out 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,lifetime, Color change and so on.Please consider the heat generation of the LEDs when making the system design.LED

(7) Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust, requir 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. Refond suggests using isopropyl alcohol for cleaning. In case other solvents are used, it must be

Ultrasonic cleaning may cause damage to the LED.

Table 4-1Storage

Conditions		Temperature	Humidity	Time
Storage	Before Opening Aluminum Bag	30	75%	Within 1 Year From Date
	After Opening Aluminum Bag	30	60%	24hours 24
Baking		60 5	-	24hours 24

(8) If the moisture absorbent material silica gel has faded away or the LEDs have exceeded the storage time, baking treatment should be performed after unpacking and based on the following condition 65 5 for above 24 hours.

If the package is flatulence or damaged, please notify the sales staff to assist.

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

(10) When using this product, you need to take good care to prevent it from causing harm to eyes and human body.

(11) Other points for attention, please refer to our relevant information.

Version History/

Date	Revisor	Version	Verifier	Remarks
2020-08-10		E0		
2020-09-20		E1		