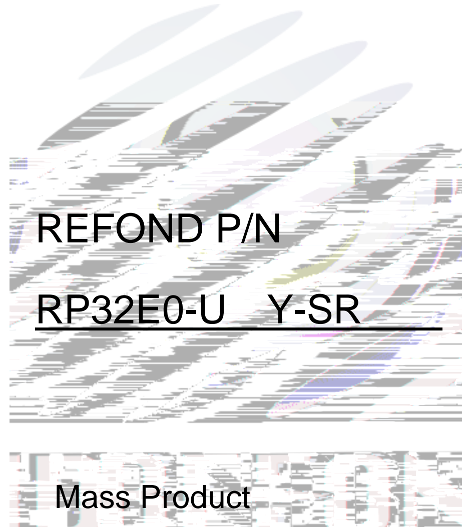
SPECIFICATION



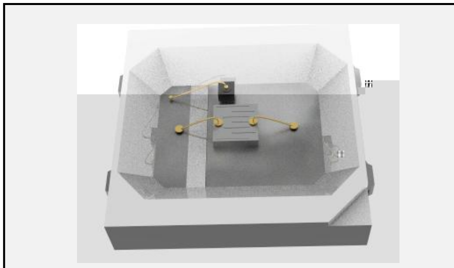
REFOND P/N

RP32E0-U Y-SR

Mass Product

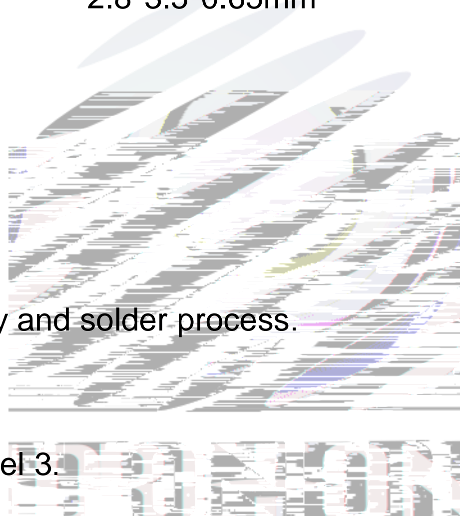
1. Description

1.1 General Description



This production use the PLCC-2 package　outline size 2.8*3.5*0.65mm

2.8*3.5*0.65mm



1.2 Features

► PLCC package.

► Viewing angle:120°　.

► 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 Curing .

► UV Ink Curing .

► Nail care.

► General use.

1.4 Package Dimension

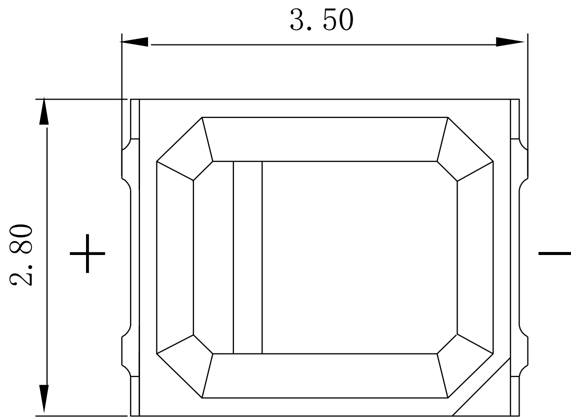


Fig.1-1 Top view

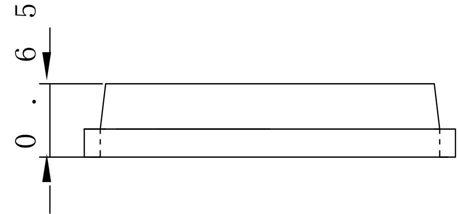


Fig.1-2 Side view

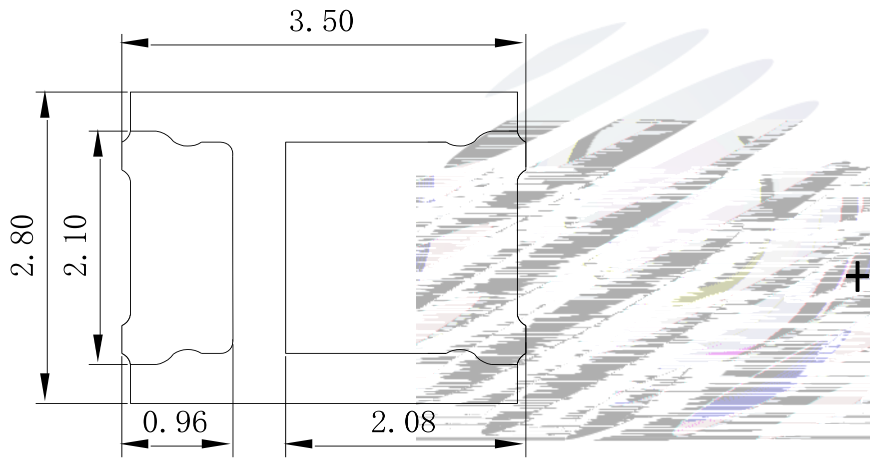


Fig.1-3 Bottom view

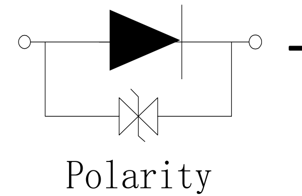


Fig.1-4 Polarity

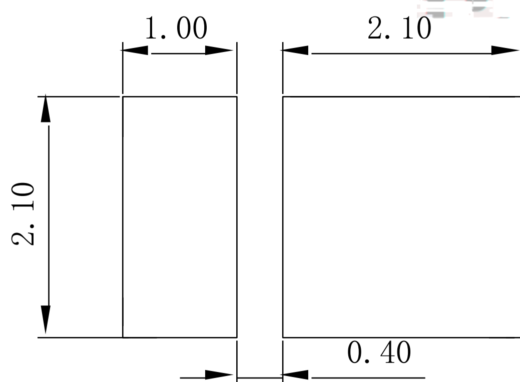


Fig.1-5 Soldering patterns

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=150mA	B11	3.0	---	3.2	V
			B12	3.2	---	3.4	
			B13	3.4	---	3.6	
			B14	3.6	---	3.8	
			B15	3.8	---	4.0	
Reverse Current	I_R	V_R=5V	---	---	---	5	uA
Total radiant flux RP32E0-UEY-SR (380-390nm)	Φ_e	I_F=150mA	1B26	90	---	112	mW
			1B27	112	---	140	
			1B28	140	---	180	
Total radiant flux RP32E0-UHY-SR (390-400nm)	Φ_e	I_F=150mA	1B26	90	---	112	mW
			1B27	112	---	140	
			1B28	140	---	180	
Total radiant flux RP32E0-UIY-SR (400-410nm)	Φ_e	I_F=150mA	1B26	90	---	112	mW
			1B27	112	---	140	
			1B28	140	---	180	
Viewing Angle	2θ1/2	I_F=150mA	---	---	120	---	deg
Thermal Resistance.	R_{THJ-S}	I_F=150mA	---	---	30	---	/W

1.6 Typical optical characteristics curves

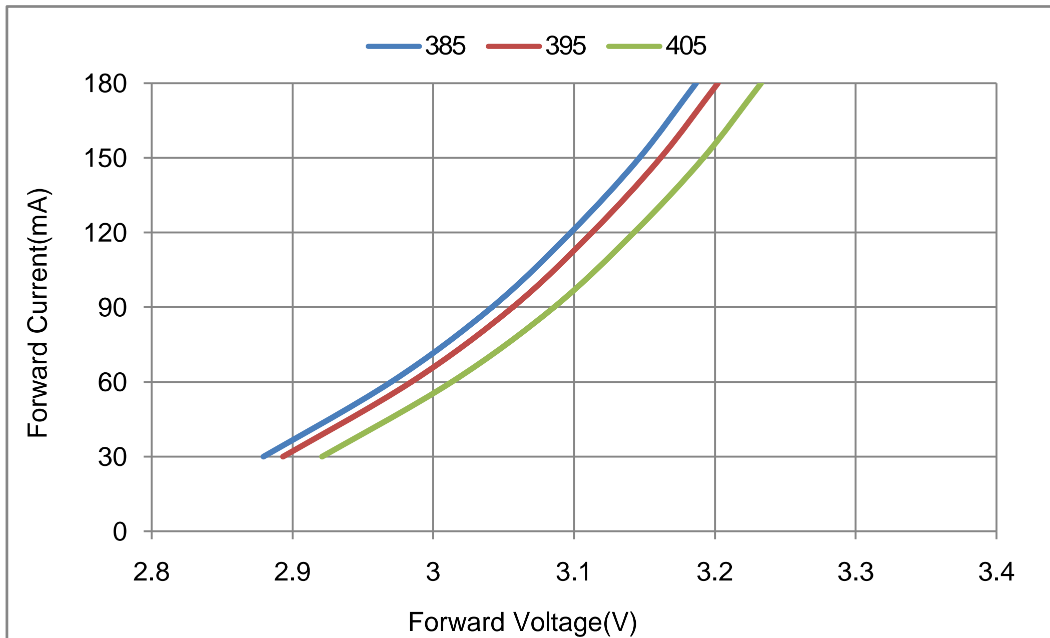


Fig.1- Forward Voltage Vs. Forward Current

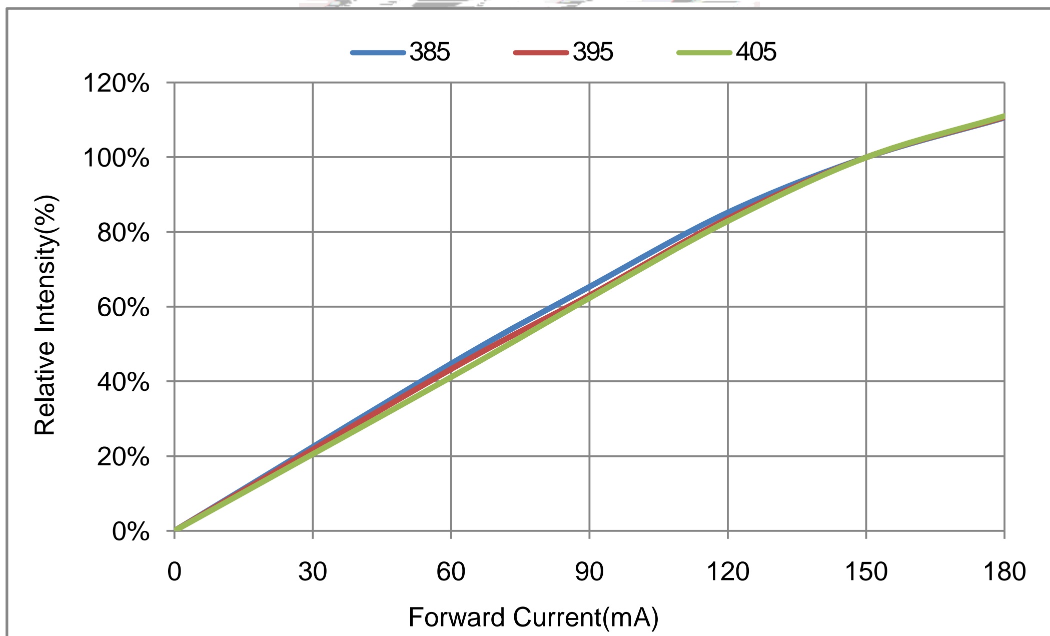


Fig.2- Forward Current Vs. Relative Power

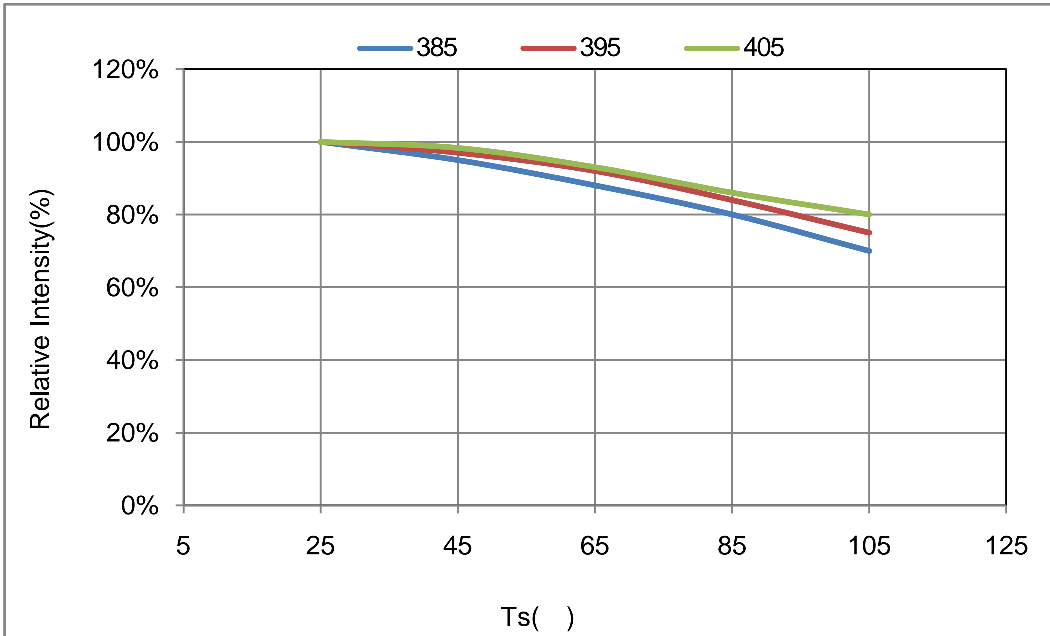


Fig.3-Solder Temperature VS. Relative Power

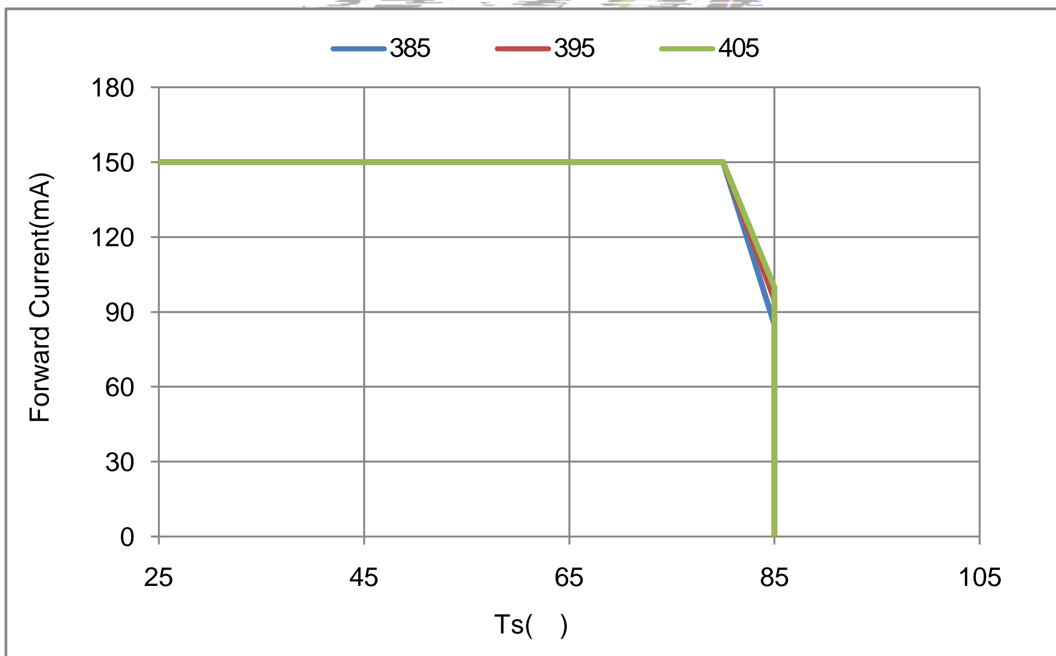


Fig.4-Ts Temperature VS. Forward Current

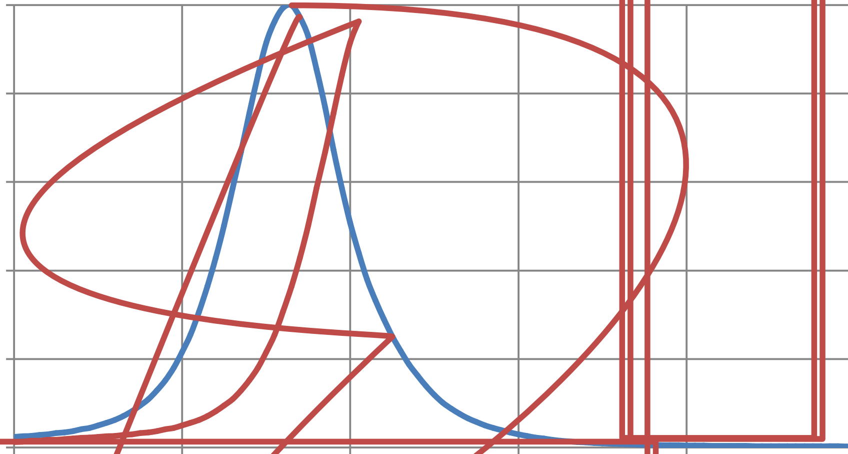


Fig.5-Spectrum Distribution

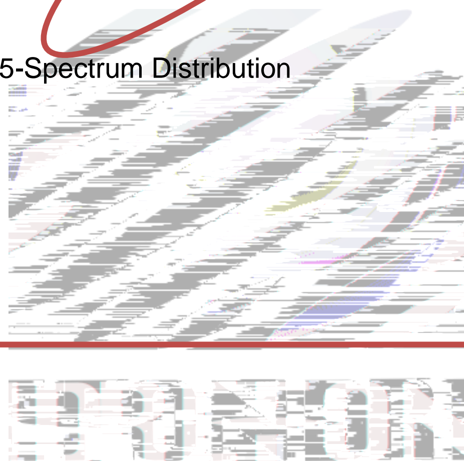


Fig.6- Radiation Diagram

2. Packaging

2.1 Packaging Specification

Package:4000pcs/reel. 4000pcs

2.1.1 Carrier Tape Dimension

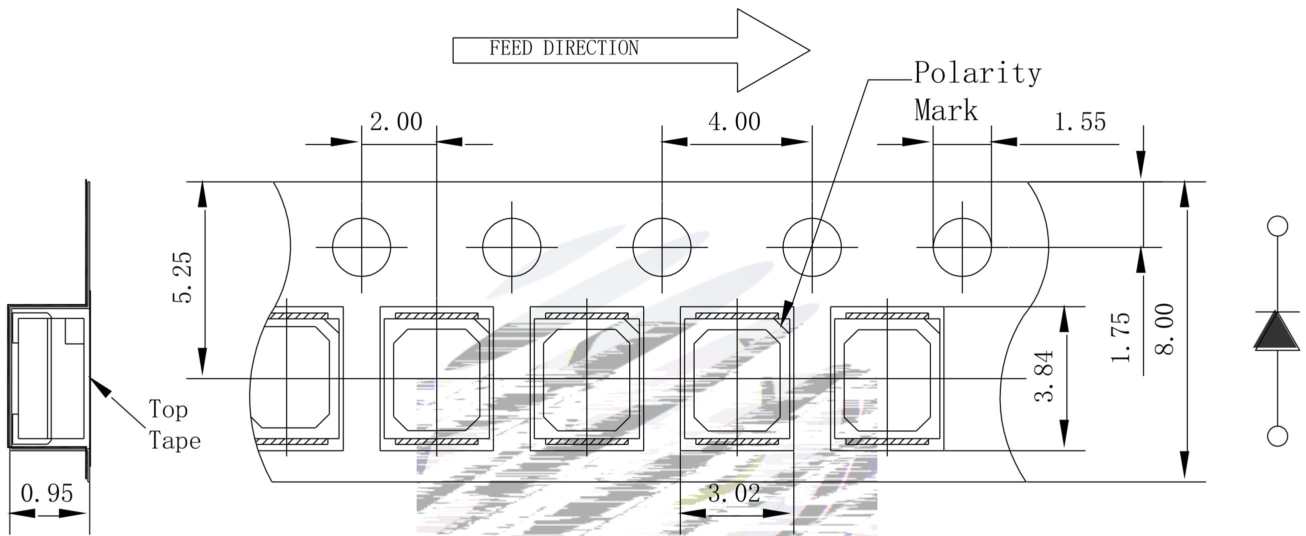


Fig.2-1 Carrier Tape Dimension

2.1.2 Reel Dimension

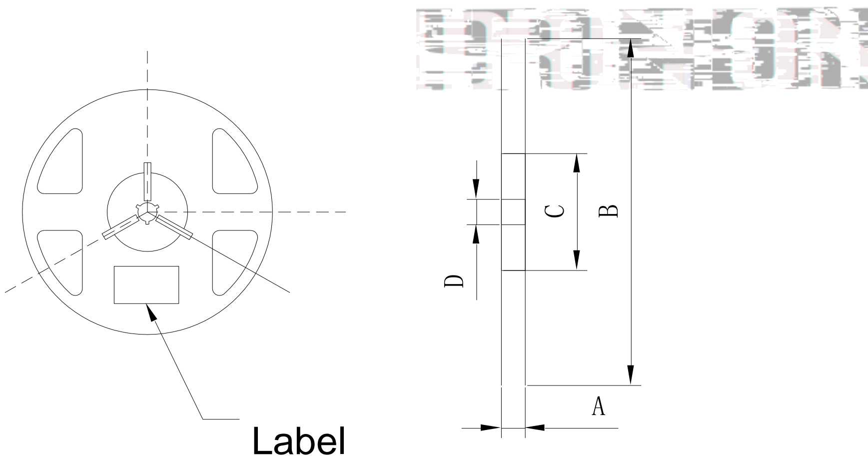


Fig.2-2 Reel Dimension

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

Fig. 2-3 Label Form Specification

2.3 Cardboard Box

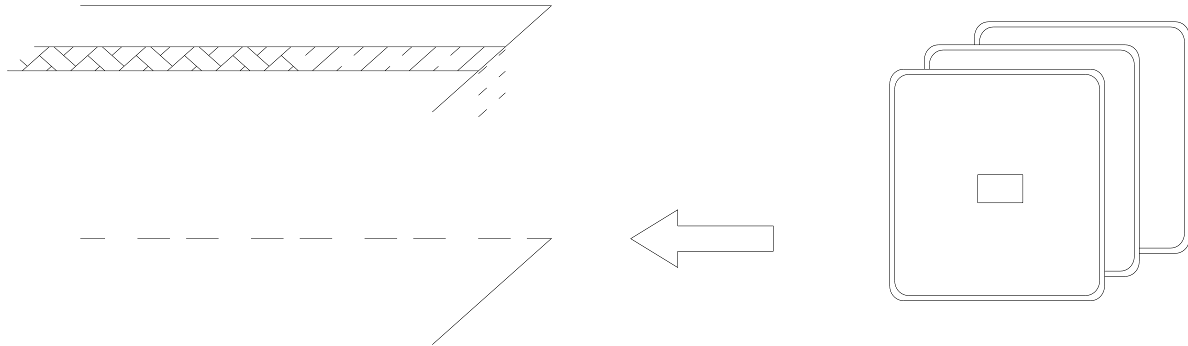


Fig.2-5 Cardboard Box

2.4 Reliability Test Items And Conditions

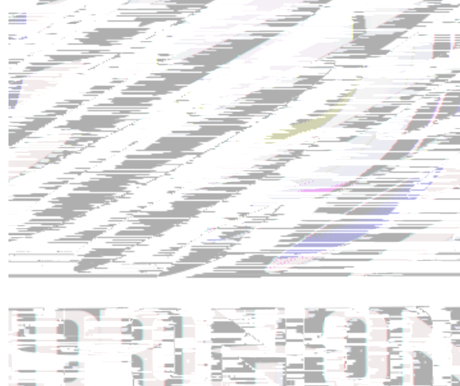
Table 2-3 Reliability Test Items And Conditions

Test Items	Ref.Standard	Test Condition	Time	Quantity	Ac/Re
Reflow	JESD22-B106	Temp:260 max T=10 sec	3times.	10Pcs.	0/1
Thermal Shock	JESD22-A106	-40 15min ↑↓10s 100 15min	100 Cycles	10Pcs.	0/1
Life Test	JESD22-A108	T_a=25 I_F=150mA	1000Hrs.	10Pcs.	0/1

2.5 Criteria For Judging Damage

Table 2-4 Criteria For Judging Damage

Test Items	Symbol	Test Condition	Criteria For Judgement	
			Min.	Max.
Forward Voltage	V_F	I_F=150mA	-	U.S.L*)x1.1
Reverse Current	I_R	V_R = 5V	-	U.S.L*)x2.0
Total radiant flux	Φ_e	I_F=150mA	L.S.L*)x0.7	-



3. SMT Reflow Soldering Instructions SMT 回流焊说明

3.1 SMT Reflow Soldering Instructions SMT

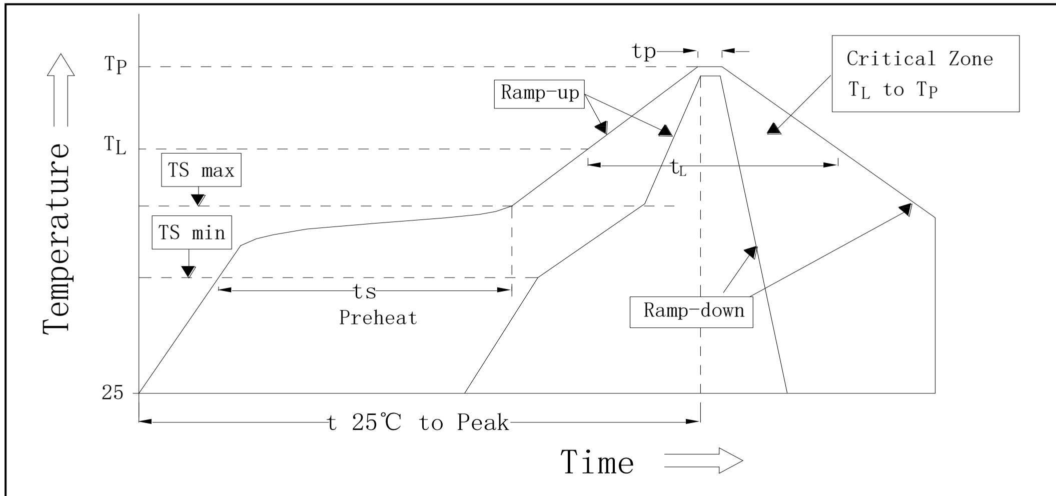


Fig.3-1 SMT Reflow Soldering Instructions

Table 3-1 SMT Reflow Soldering Instructions

Average temperature rise speed Tsmax Tp	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

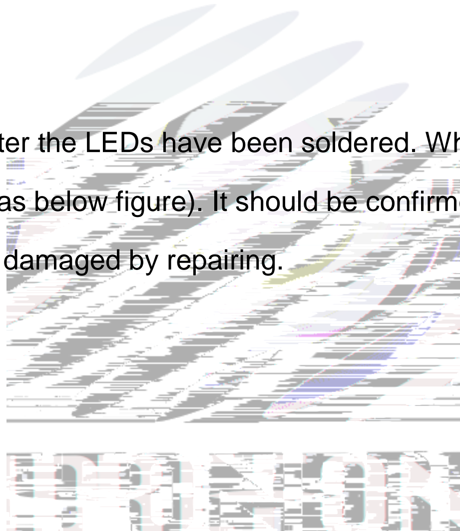
(1) When do soldering by hand, keep the temperature of iron below less 300 less than 3 seconds.

(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.

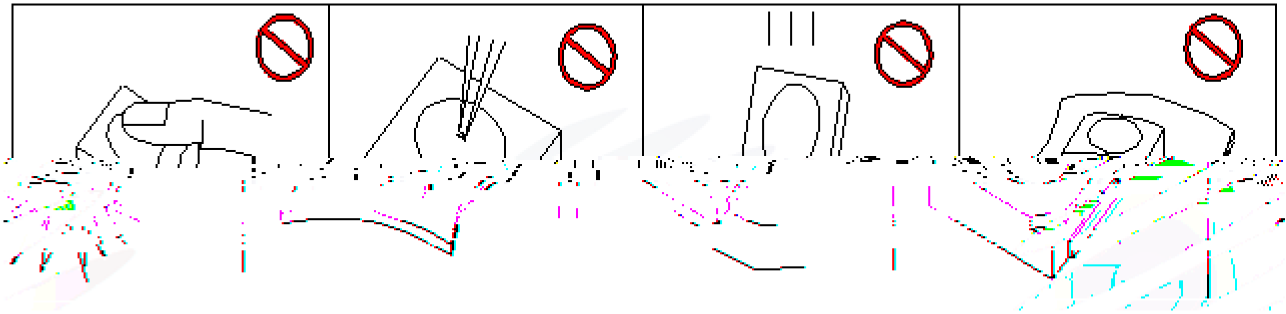
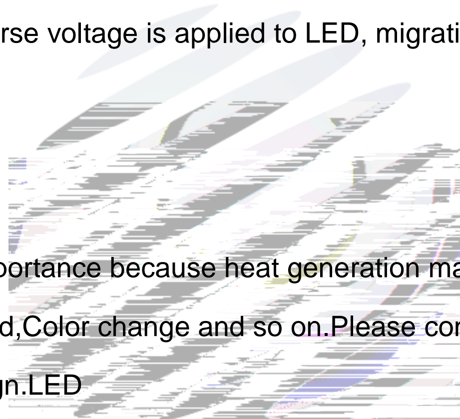


Fig 4-1 Operate Method

(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,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, 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. Refond suggests 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.

Version History/

Date	Revisor	Version	Verifier	Remarks
2019-05-14		E0		
2020-09-20		E1		

Declare

This specification is written both in English and in Chinese and the latter is formal.