SPECIFICATION

REFOND P/N

Mass Product

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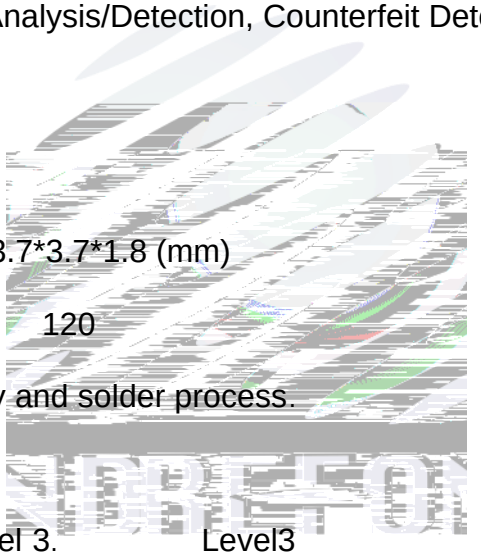
1. Description

1.1 General Description

This production has a hign reliability, good heat dissipation, are widely used in the disinfection, phototherapy, sensor light, Bio-Analysis/Detection, Counterfeit Detectors, etc.



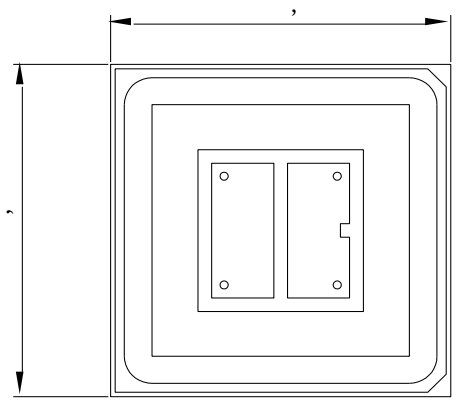
1.2 Features

- ► Size(mm):3.7*3.7*1.8. 3.7*3.7*1.8 (mm)
- ► Viewing angle:120°. 120
- ► Suitable for all SMT assembly and solder process. SMT
- ► Available on tape and reel.
- ► Moisture sensitivity level: Level 3. Level3
- ► RoHS compliant. RoHS

1.3 Application

- ► Ultraviolet disinfection.
- ► Phototherapy.
- ► Bio-Analysis/Detection.
- ► General use.

1.4 Package Dimension



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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=100mA	B16	4.0	---	4.2	V
			B17	4.2	---	4.4	
			B18	4.4	---	4.6	
			B19	4.6	---	4.8	
			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	
Reverse Current	I_R	V_R=10V	---	---	---	5	uA
Total radiant flux ( )	Φ_e	I_F=100mA	1J03	6	---	10	mW
			1J04	10	11	15	
Peak wavelength ( )	λp	I_F=100mA	UA42	305	308	310	nm
			UA43	310	---	315	
Spectrum Half width ( )	λ	I_F=100mA	---	10	13	15	nm
Viewing Angle	2θ1/2	I_F=100mA	---	---	120	---	deg
Thermal Resistance.	R_{THJ-S}	I_F=100mA	---	---	45	---	/W

1.6 Typical optical characteristics curves

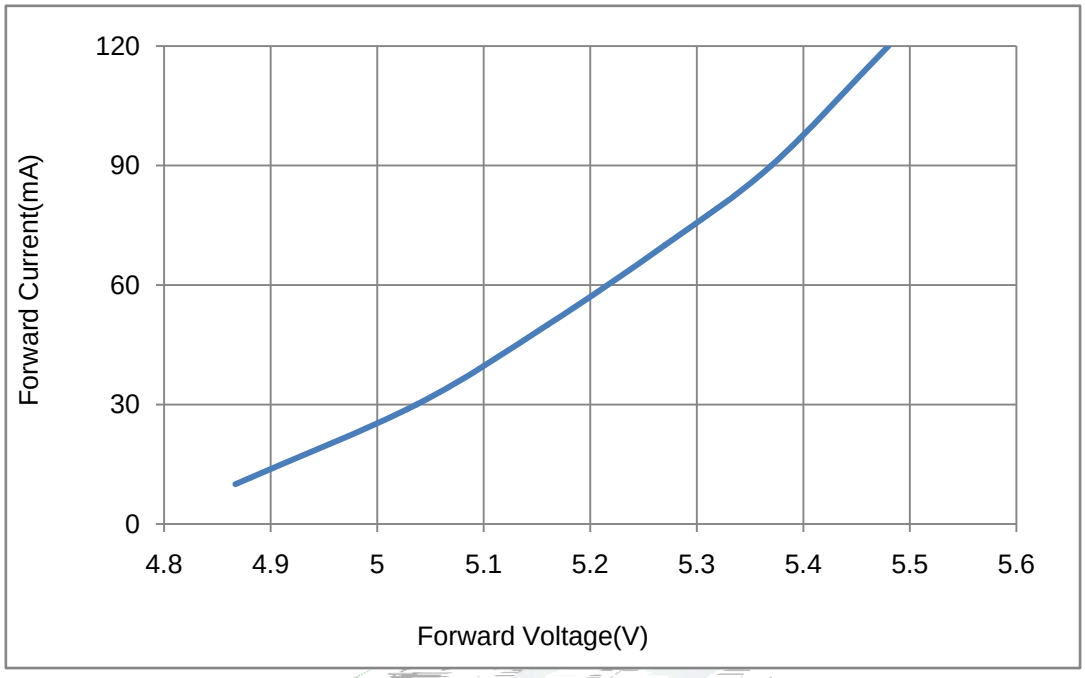

Fig.1- Forward Voltage Vs. Forward Current

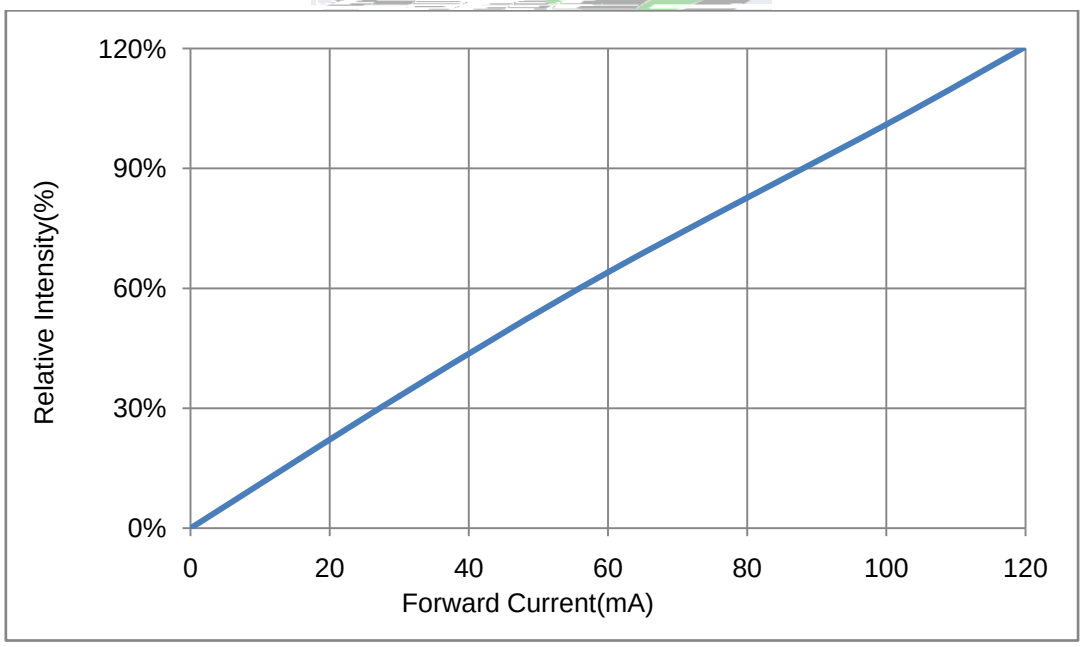

Fig.2- Forward Current Vs. Relative Power

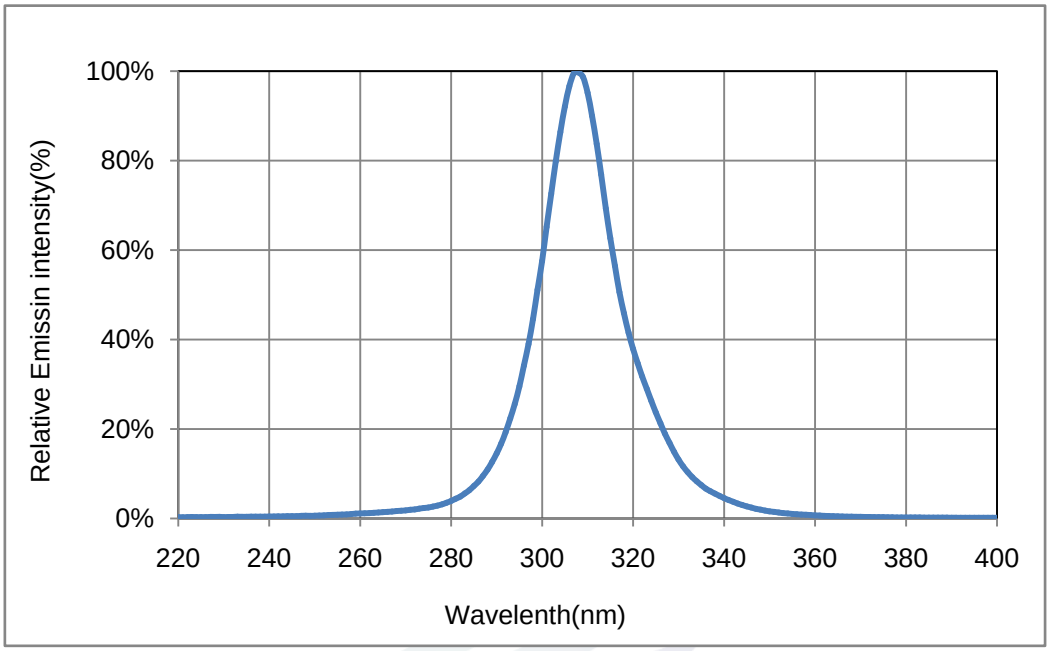

Fig.5-Spectrum Distribution

Fig.6- Radiation Diagram

2. Packaging

2.1 Packaging Specification

Package:1000pcs/reel.

2.1.1 Carrier Tape Dimension

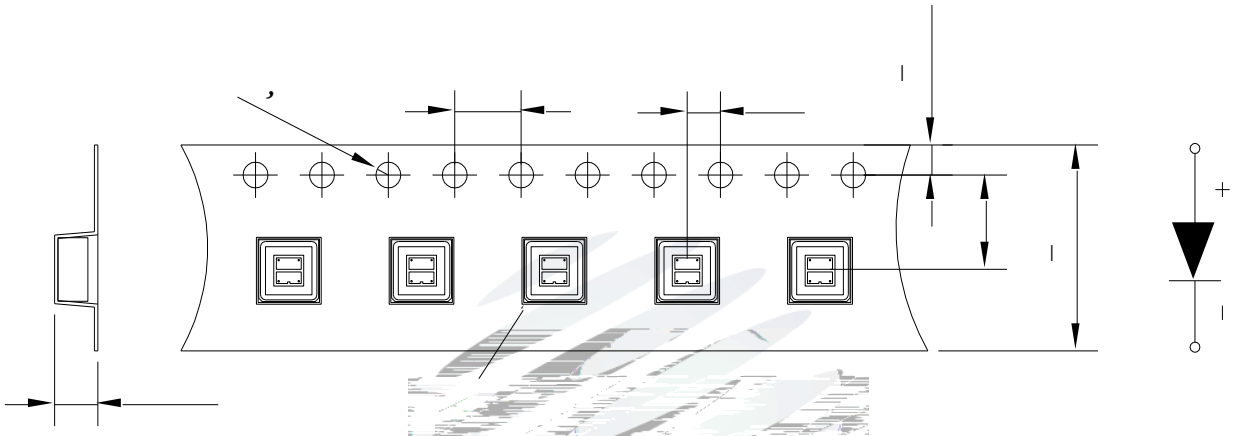

Fig.2-1 Carrier Tape Dimension

2.1.2 Reel Dimension

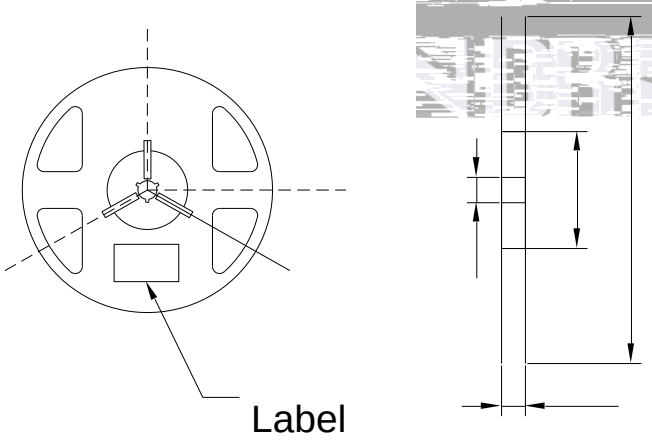

Fig.2-2 Reel Dimension

Table 2-1 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

Table 2-2 Label Form Specification

Fig. 2-3 Label Form Specification

2.2 Moisture Resistant Packing

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			

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=100mA	-	U.S.L*)x1.1
Reverse Current	I_R	V_R = 10V	-	U.S.L*)x2.0
Total radiant flux	Φ_e	I_F=100mA	L.S.L*)x0.7	-

Notes

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

2. The above reliability tests is based on the verification of a single/strip LED of Refond's existing experimental platform, the reliability experiment was taken under good heat dissipation conditions. when customers applies the LED to the series and parallel circuit, should take consideration of all the factors such as the current, voltage distribution, heat dissipation and others. / LED

LED

3.The technical information shown in the data sheets is

3. SMT Reflow Soldering Instructions SMT 回流焊说明

3.1 SMT Reflow Soldering Instructions SMT

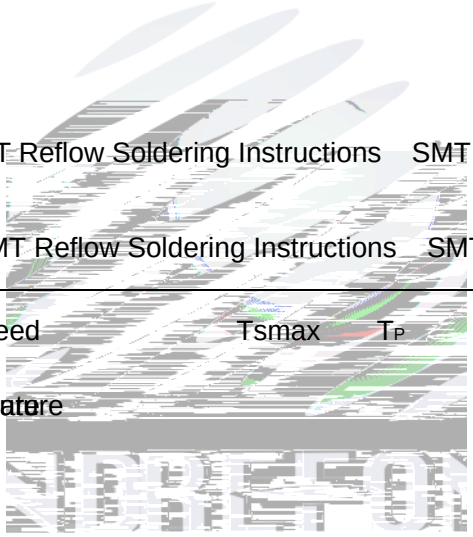

Fig.3-1 SMT Reflow Soldering Instructions SMT

Table 3-1 SMT Reflow Soldering Instructions SMT uv

Average temperature rise speed	Tsmax T_P	Max 3 °C/ s 3 °C/
Preheating: minimum temperature		

4. Handling Precautions

4.1 Handling Precautions

(1) LED operating environment and sulfur element composition cannot be over 100PPM in the LEDmating usage material. This is provided for informational purposes only and is not a warranty or endorsement.LED

LED 100PPM.

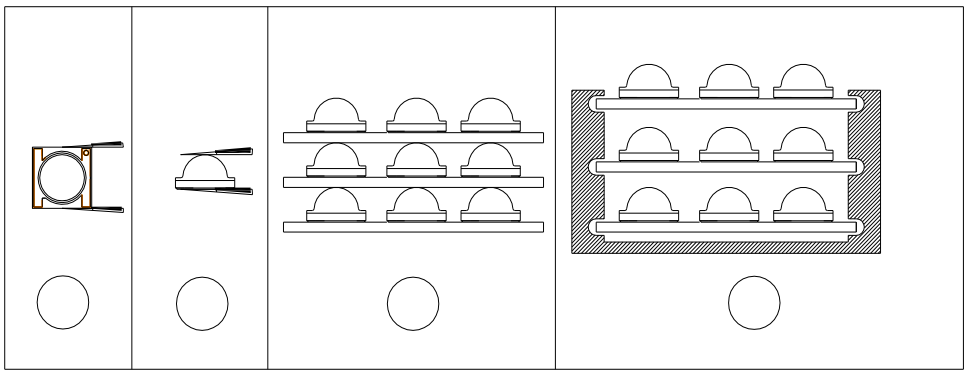

Fig 4-1 Operate Method

(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. LED

LED

(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

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.

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.

60 5 24

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). LED

(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.

Date	Revisor	Version	Verifier	Remarks
2020-05-20		E0		
2020-09-10		E1		1. 0.5V 0.2V 2. 50MA 100MA

Declare

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