SPECIFICATION

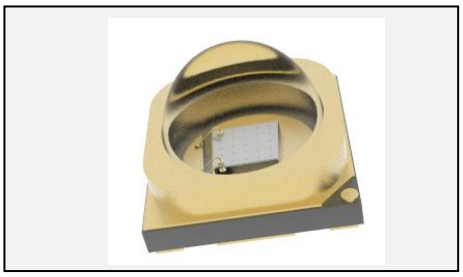
REFOND P/N

□R&D

■Mass Product

1. Description

1.1 General Description



This production use the ceramics and quartz lens package outline size 3.8X3.8X2.63mm

3.8X3.8X2.63mm

1.2 Features

► Ceramic and quartz lens 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

► UV Curing.

► UV Ink Curing.UV

► Ultraviolet disinfection.

► General use.

1.5 Product Parameters

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

Item

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

Parameter	Symbol	Rating	Units
Maximum Power Dissipation	P_D	4	W
Peak Forward Current	I_{FP}	1000	mA

Notes

1. 1/10 Duty cycle, 0.1ms pulse width.
2. The above forward voltage measurement allowance tolerance is ±0.1V. ±0.1V.
3. The above wavelenth measurement allowance tolerance is ±2nm. ±
4. The above radiation flux measurement allowance tolerance ±10%. ±10%.
5. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.
6. All measurements were made under the standardized environment of Refond.
7. When the LEDs are in operation the maximum current should be decided after measuring the package temperature, junction temperature should not exceed the maximum rate
8. ESD yield is over 90% at 2000V ESD (HBM). ESD protection during products handing is needed.

1.6 Typical optical characteristics curves

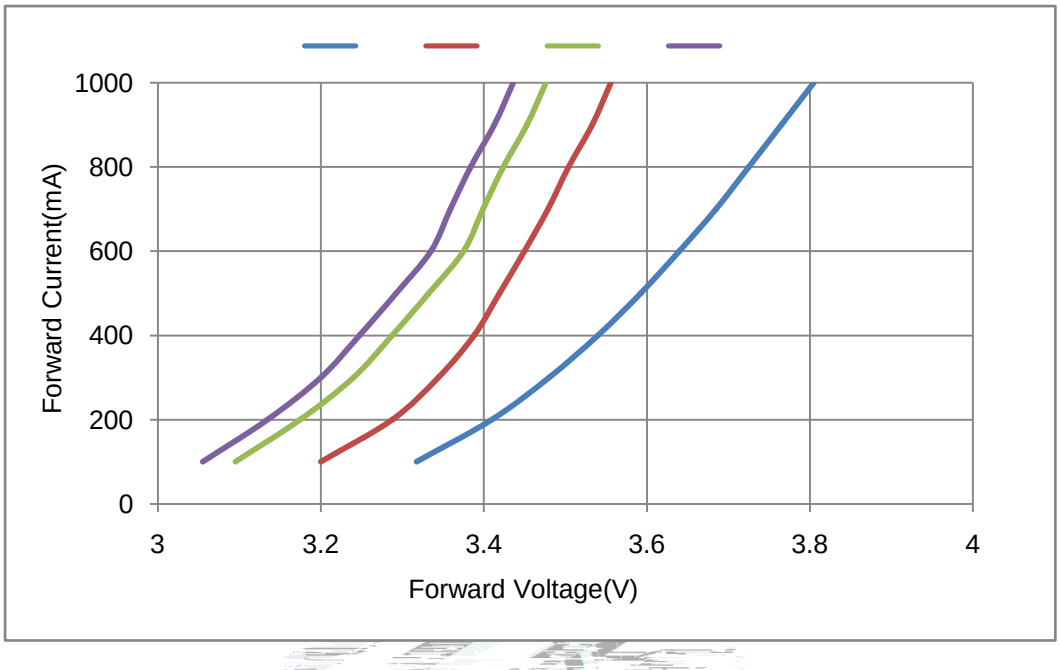


Fig.1- Forward Voltage Vs. Forward Current

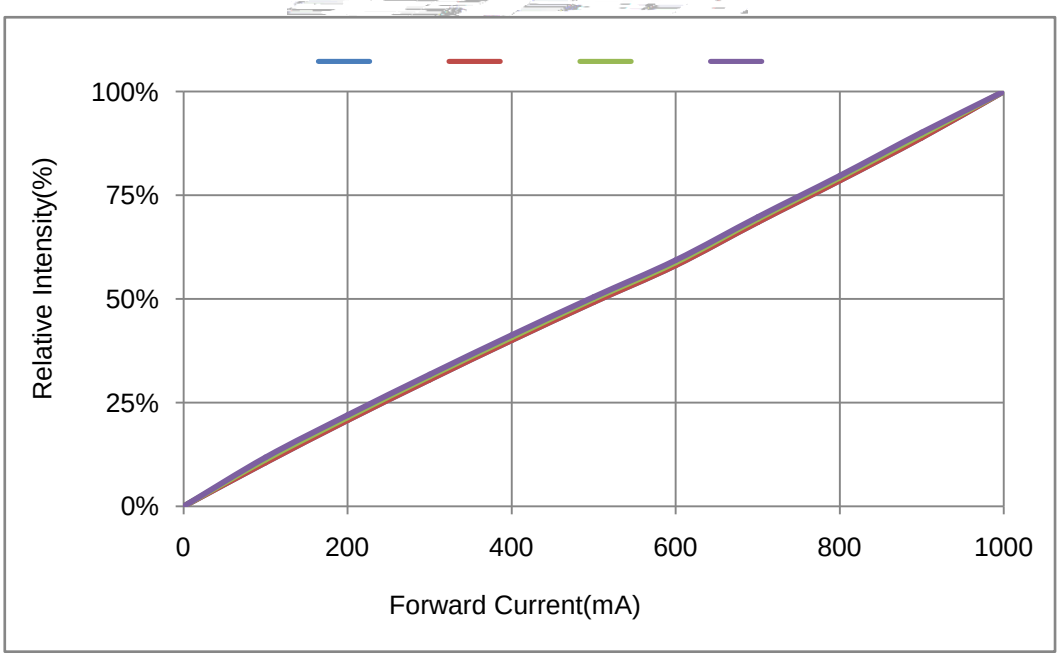


Fig.2- Forward Current Vs. Relative Power

Fig.3-Solder Temperature VS. Relative Power

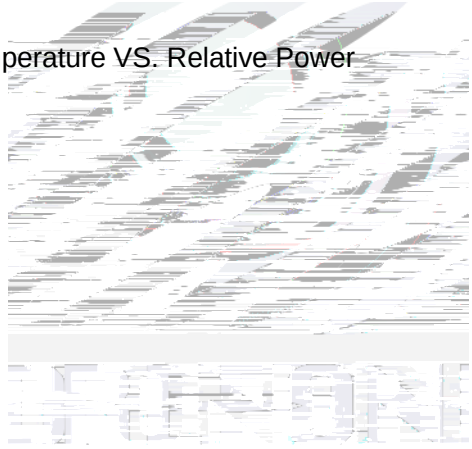


Fig.4-Ts Temperature VS. Forward Current

2. Packaging

2.1 Packaging Specification

Package:1000pcs/reel.

2.1.1 Carrier Tape Dimension

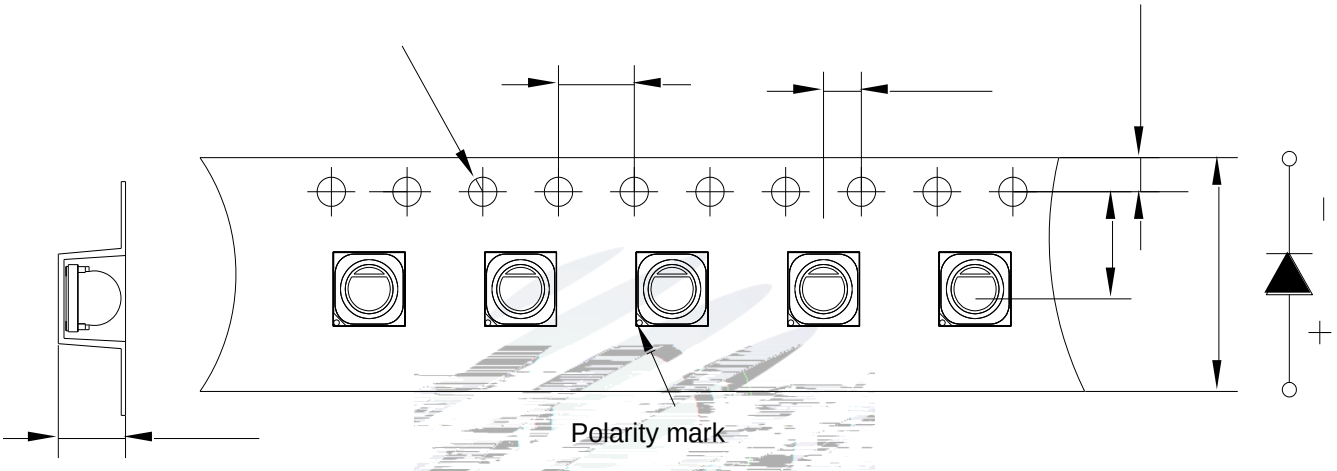


Fig.2-1 Carrier Tape Dimension

2.1.2 Reel Dimension

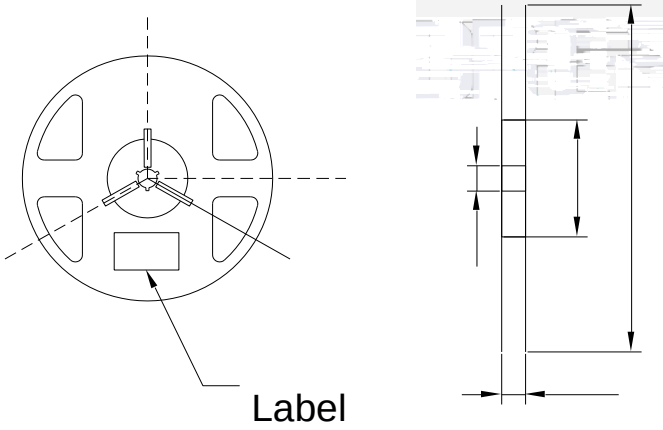


Fig.2-2 Reel Dimension

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 ±0.

2.1.3 Label Form Specification

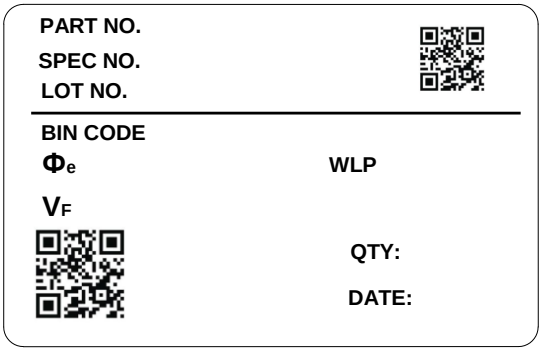


Fig. 2-3 Label Form Specification

Label Form Specification

PART NO.	Part Number
SPEC NO.	Spec Number
LOT NO.	Lot Number
BIN CODE	Bin Code
Φ_e	Radiation flux
V_F	Forward Voltage
WLP	Wavelength
QTY	Packing Quantity
DATE	Made Date

2.2 Moisture Resistant Packing

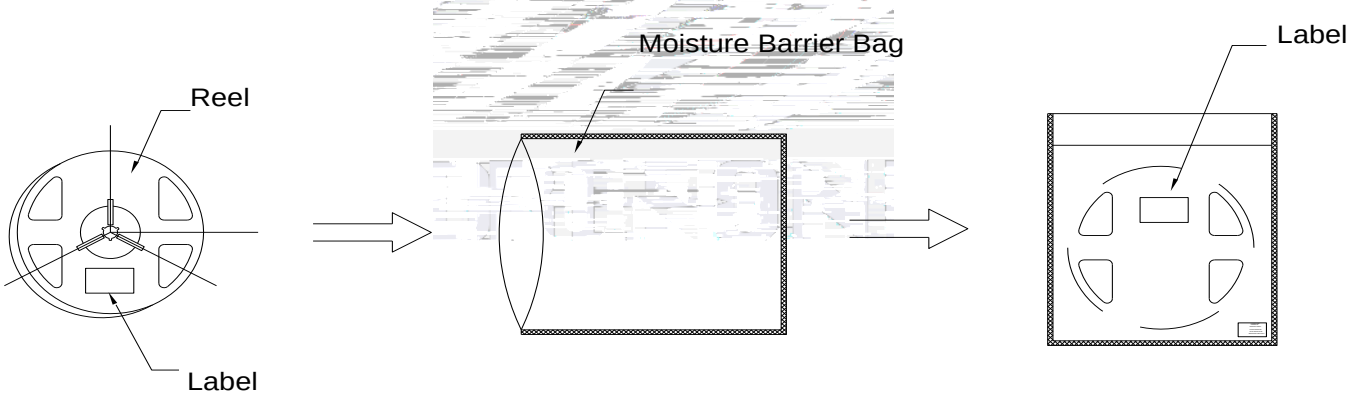


Fig.2-4 Moisture Resistant Packing Process

2.3 Cardboard Box

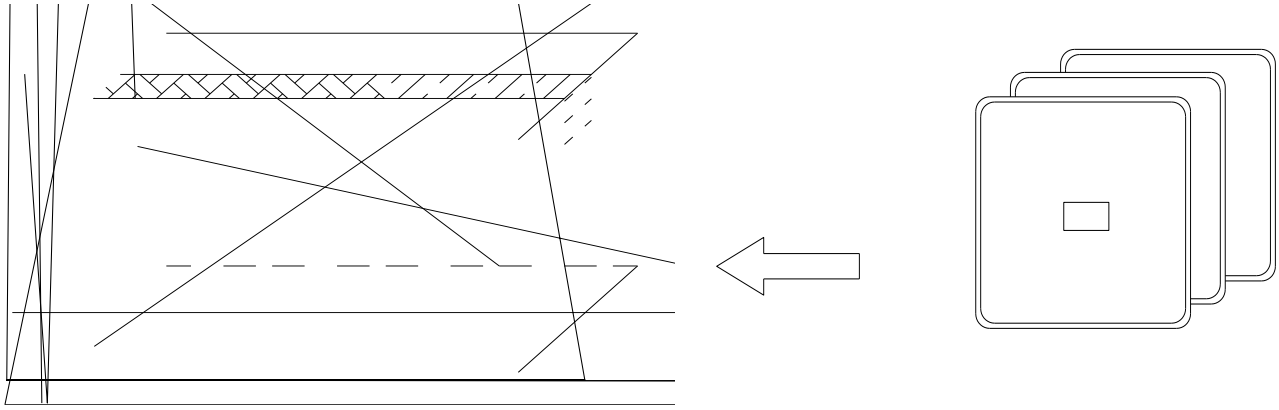


Fig.2-5 Cardboard Box

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=1000mA	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=1000mA	-	U.S.L*)x1.1
Reverse Current	I_R	V_R = 5V	-	U.S.L*)x2.0
Total radiant flux	Φ_e	I_F=1000mA	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.

3.The technical information shown in the data sheets is 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.

3. SMT Reflow Soldering Instructions SMT 回流焊说明

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

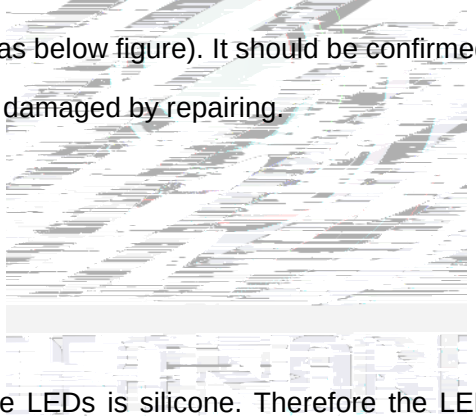
(1) When do soldering by hand, keep the temperature of iron below less 300 less than 3 seconds

(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

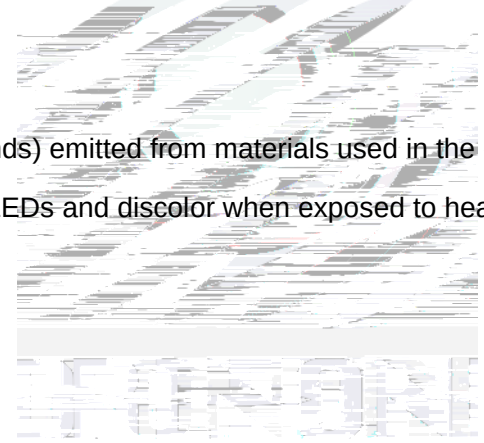
(3) Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering. Do not rapidly cool device after soldering.

4. Handling Precautions

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

(2) In order to prevent ex-ternal 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 Chlorine elementis 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 than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement.



(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

Fig 4-1 Operate Method

(5) In designing a circuit, the current through each L81 0 01it a 15ET EMC /P /MCID 8>BDC7 0 01i ent a 15ET 10D 5:

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.

www.refonduvled.com

Declare

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