SPECIFICATION

REFOND P/N

RE30AX-IRT-FS

Mass Product

深圳市瑞丰光电子股份有限公司
承认专用章

Contents

1. Description

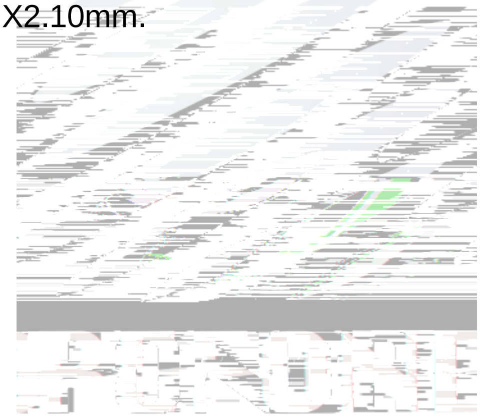
1.1 General Description

This product uses the EMC package, it has a high reliability. it also be widely application for security monitoring and senso.

Size(mm): 3.00mmX3.00mmX2.10mm.

EMC .

3.00mmX3.00mmX2.10mm.



1.4 Package Dimension

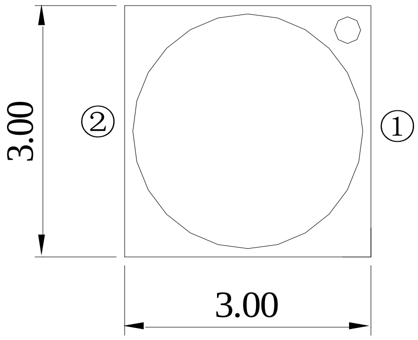


Fig.1-1 Top view

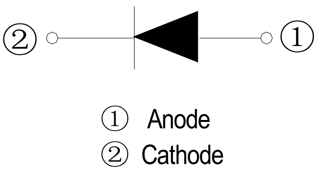


Fig.1-2 Polarity

Fig.1-3 Side view

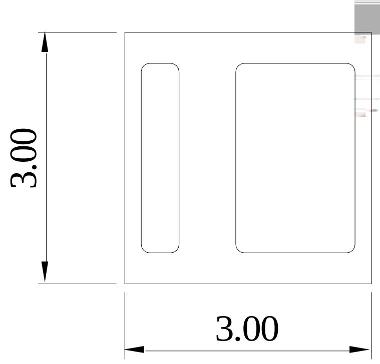


Fig.1-4 Bottom view

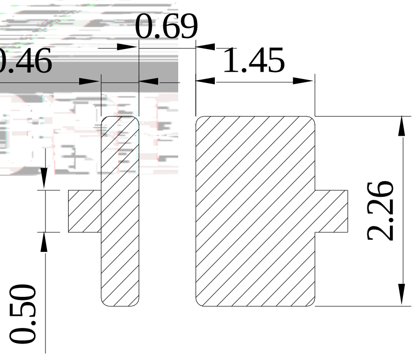


Fig.1-5 Soldering patterns

Notes

All dimensions units are millimeters.

All dimensions tolerances are ±0.2mm unless otherwise noted.

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1.5 Product Parameters

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

Item	Symbol	Test Condition	Value			Unit
			Min.	Typ	Max.	
Reverse Current	I_R	V_R=5V	---	---	10	uA
Forward Voltage	V_F	I_F=500mA	1.4	1.7	---	V
Peak Wavelength	λ_p	I_F =500mA	830	850	---	nm
Spectrum Radiation Bandwidth（ ）		I_F =500mA	---	30	---	nm
Total radiant flux ( )	$_e$	I_F =500mA	280	450	450	mW
Viewing Angle	2	I_F=500mA	---	100	---	deg
Thermal Resistance.	R_{THJ-S}	I_F=500mA	---	16	---	℃/W

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

Parameter	Symbol	Rating	Units
Power Dissipation	P_D	0.9	W
Forward Current	I_F	500	mA
Reverse Voltage	V_R	5	V
Electrostatic Discharge (HBM)	E_{SD}	2000	V
Operating Temperature	T_{OPR}	-40 ~ +85	℃
Storage Temperature	T_{OPR}	-40 ~ +100	℃
Junction Temperature	T_J	115	℃

Notes

1.1/10 Duty cycle, 0.1ms pulse width.

2.The above forward voltage measurement allowance tolerance is ±0.1V.

3. Tolerance of measurement of Total radiant flux/ Radiant Intensity: ±10%.

4. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.

5. All measurements were made under the standardized environment of Refond.

6.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

7. ESD yield is over 90% at 2000V ESD (HBM). ESD protection during products handing is needed.

1.6 Typical optical characteristics curves

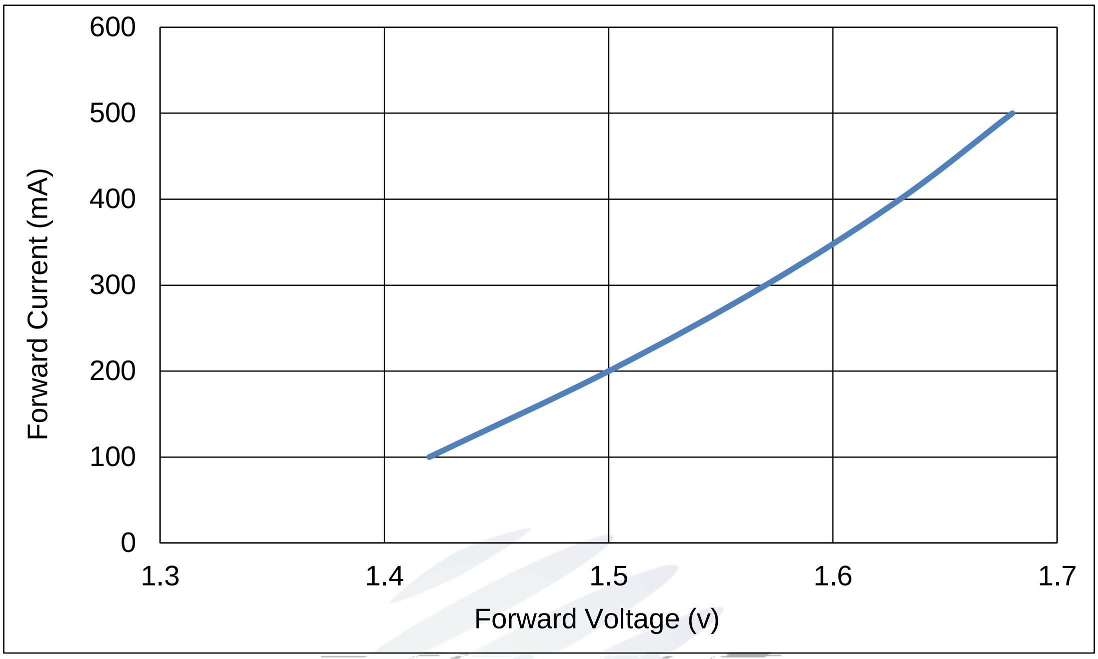


Fig 1-6 Forward Voltage Vs. Forward Current

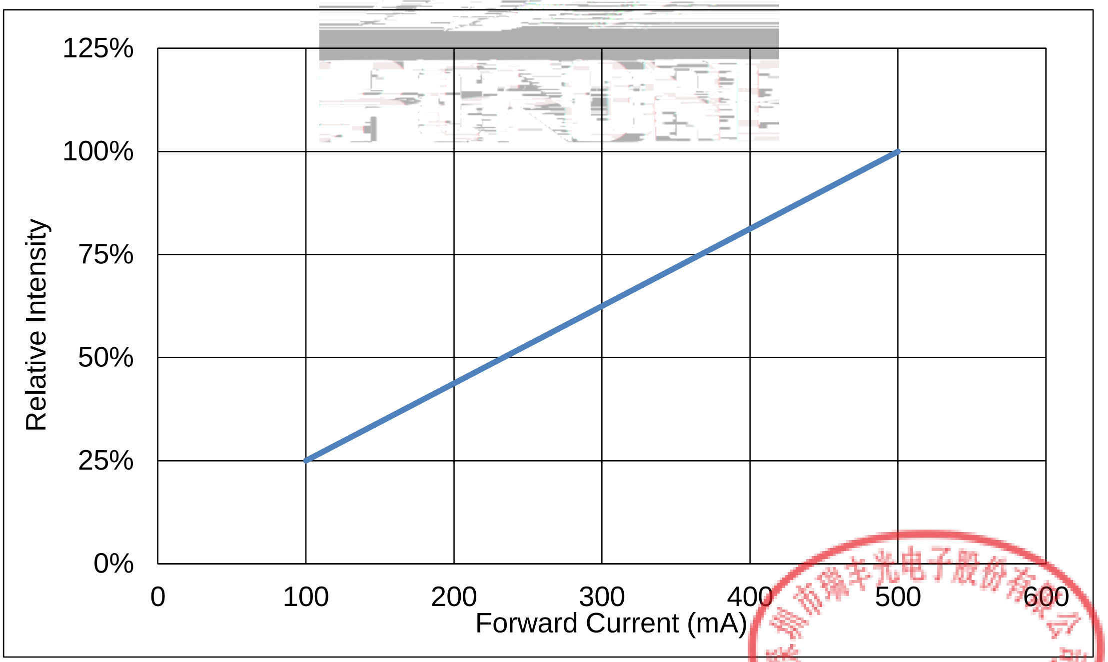


Fig 1-7 Forward Current Vs. Relative Intensity

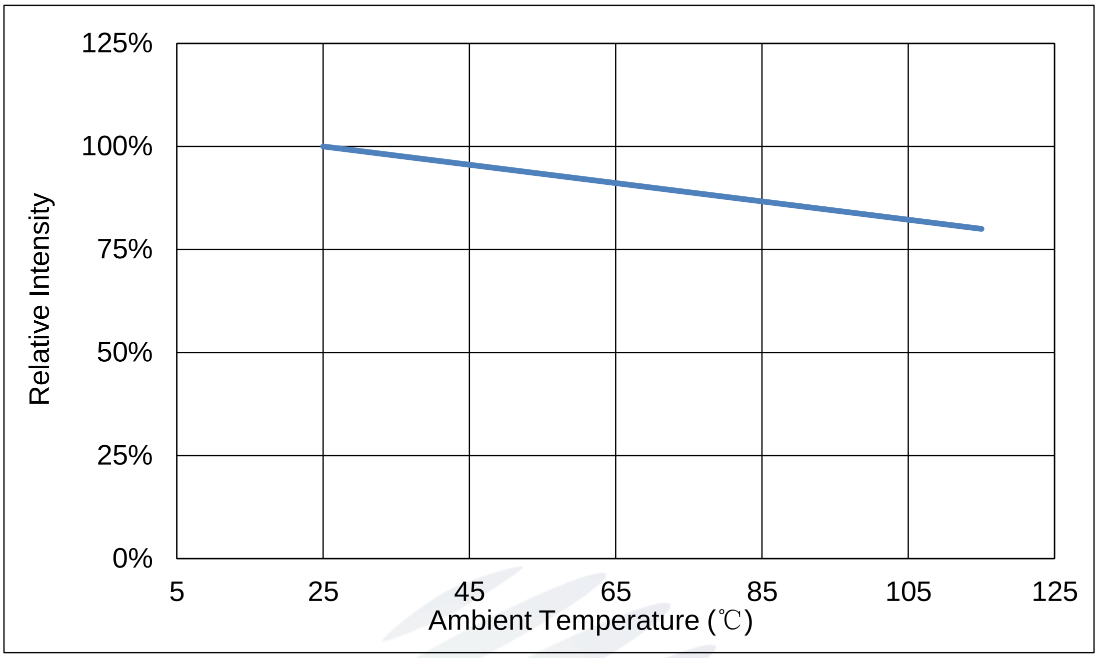


Fig 1-8 Ts Temperature Vs Relative Intensity

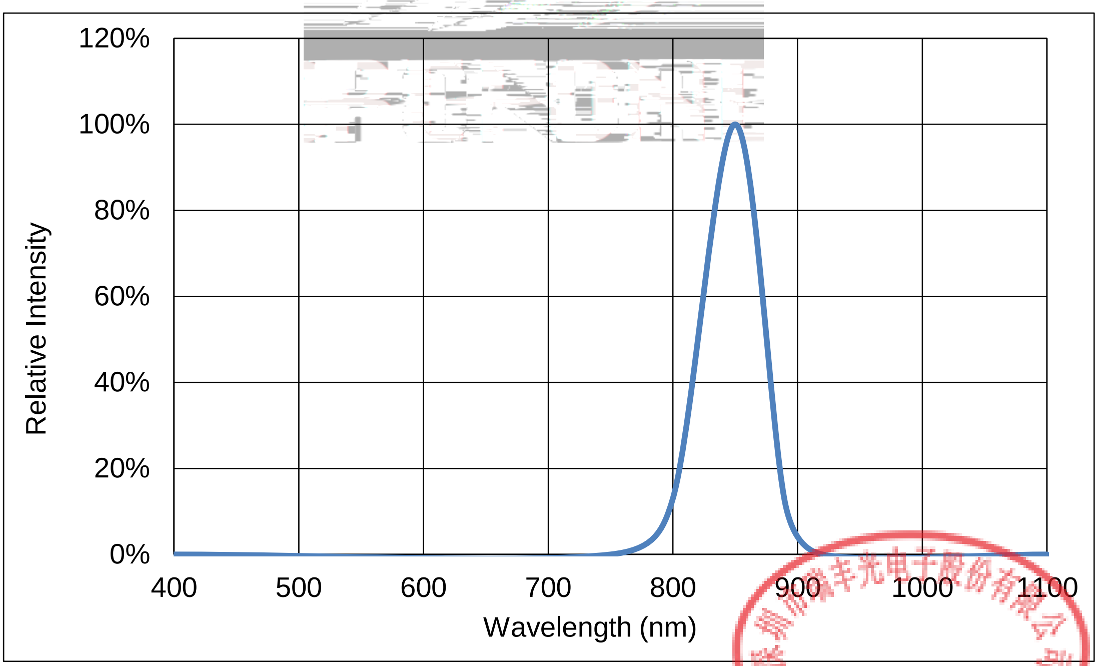
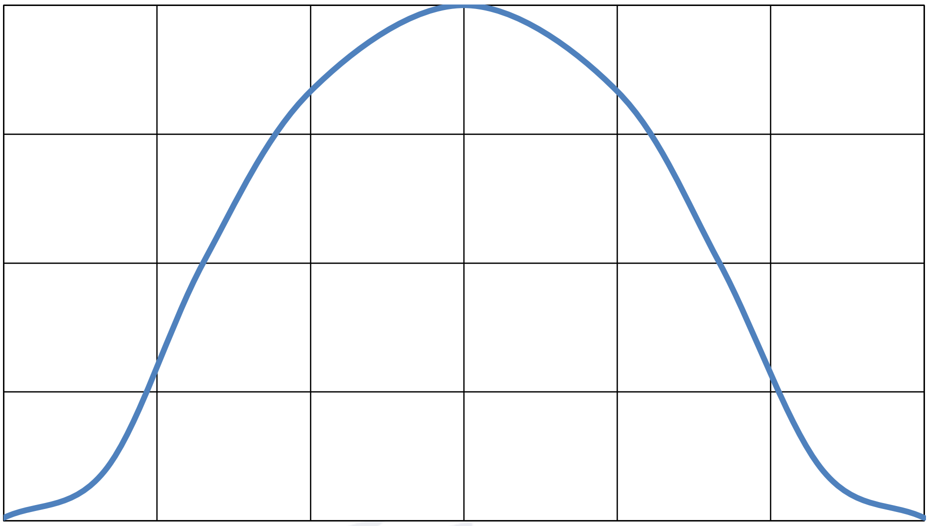


Fig 1-9 Spectrum Distribution



2. Packaging

2.1 Packaging Specification

Package:3000pcs/reel.

2.1.1 Carrier Tape Dimension

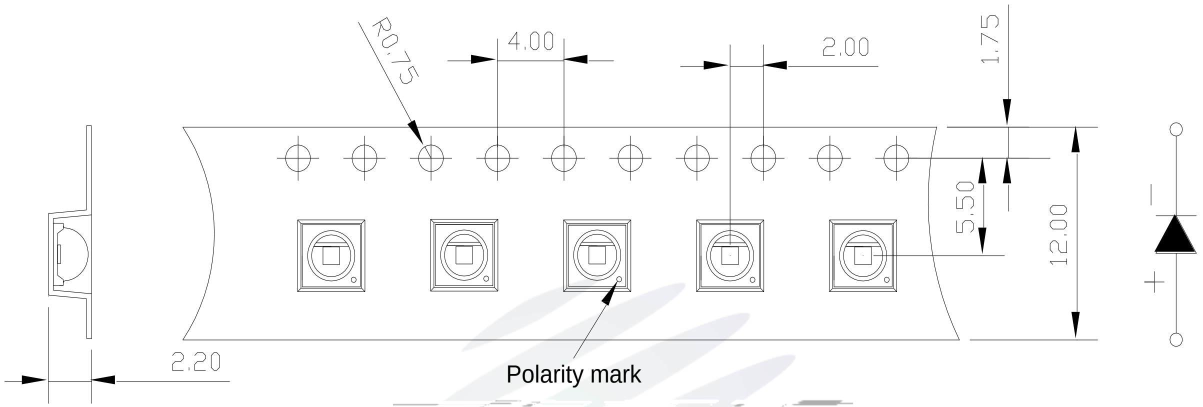


Fig.2-1 Carrier Tape Dimension

2.1.2 Reel Dimension

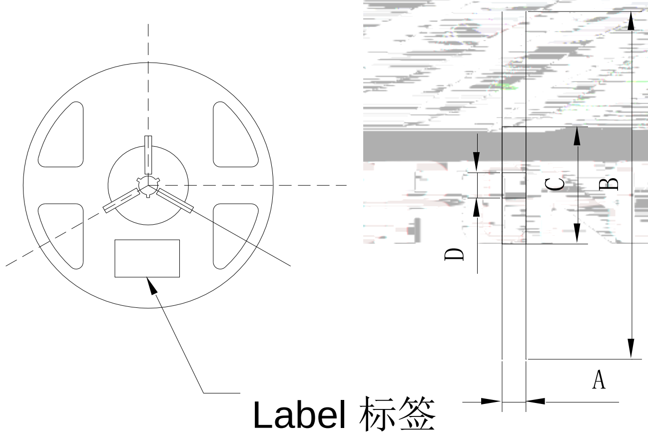


Fig.2-2Reel Dimension

Table 2-1 Dimension

A	12.7±0.3mm
B	330.2±2mm
C	79.5±1mm
D	14.3±0.2mm

Notes

The tolerances unless mentioned ± 0.1mm. Unit : mm

± 0.1

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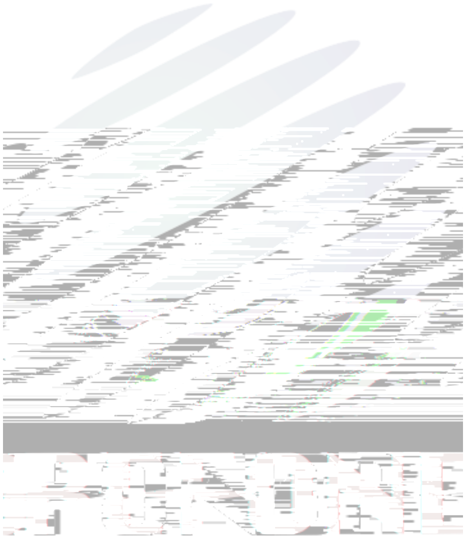

2.4 Reliability Test Items And Conditions

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
Temperature Cycle	JESD22-A106	100°C 30 min. -40°C 30 min.	100 cycles	10Pcs.	0/1
Thermal Shock	JESD22-A104	-40 15min 10s 100 15min	300 cycles	10Pcs.	0/1
High Temperature Storage	JESD22-A103	Temp:100	1000 hrs.	10Pcs.	0/1
Low Temperature Storage	JESD22-A119	Temp:-40	1000 hrs.	10Pcs.	0/1
Life Test	JESD22-A108	Ta=25 I_F=500mA	1000 hrs.	10Pcs.	0/1

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2.5 Criteria For Judging Damage

Table Criteria For Judging Damage

Test Items	Symbol	Test Condition	Criteria For Judgement

3. SMT Reflow Soldering Instructions SMT

3.1 SMT Reflow Soldering Instructions SMT

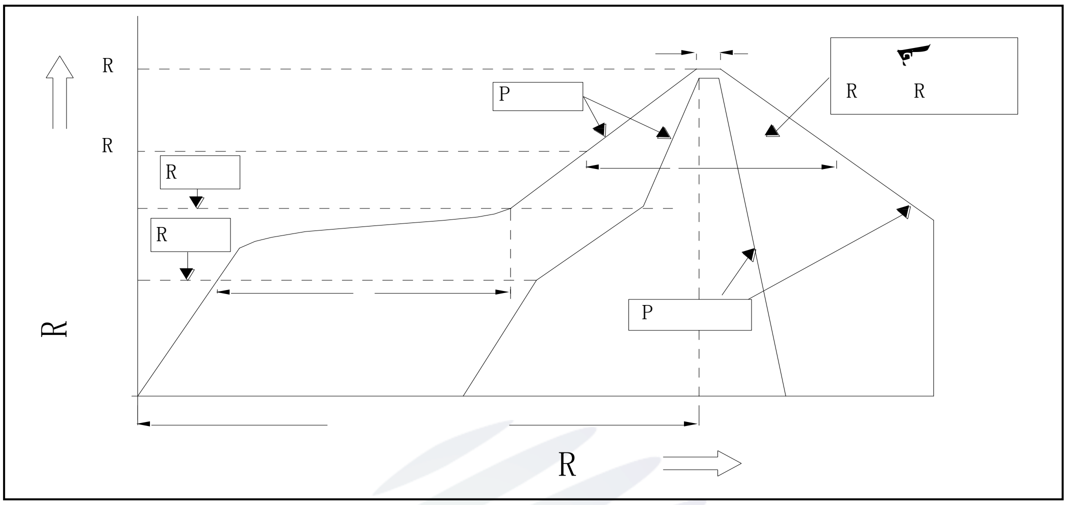
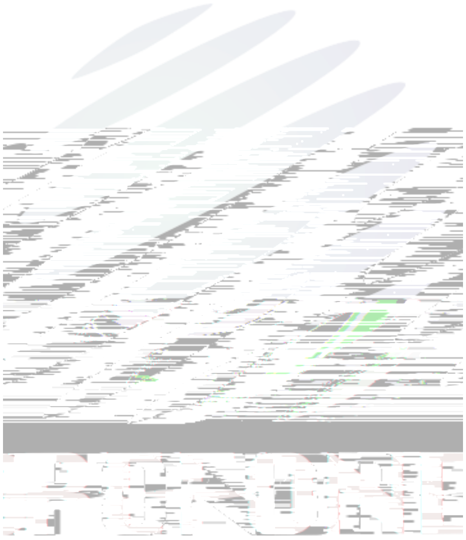


Fig.3-1 SMT Reflow Soldering Instructions SMT

Table 3-1 Parameter

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

Notes



4. Handling Precautions

4.1 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.LED

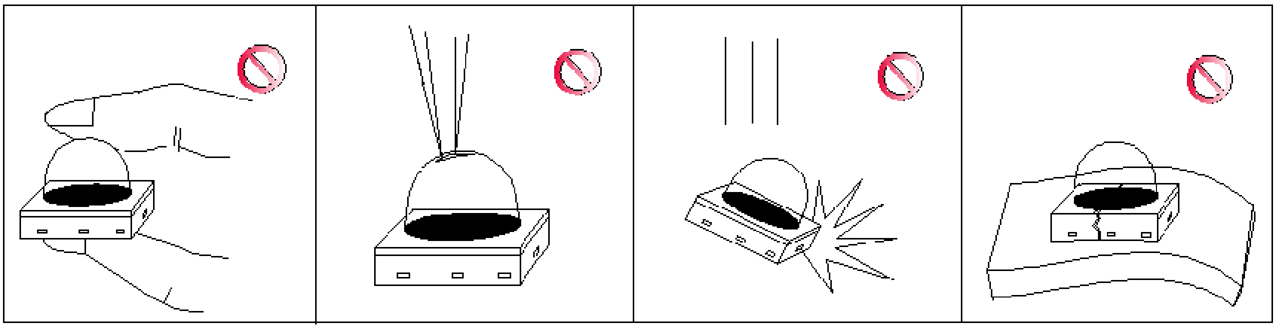


Fig 4-1

(5) In designing a circuit,the current through each LED can not 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 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

Table 4-1 Storage

Conditions		Temperature	Humidity	Time
Storage 储存	Before Opening Aluminum Bag	30	75%	Within 1 Year From Date
	After Opening Aluminum Bag	30	60%	168hours 168
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 60 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) Other points for attention, please refer to our relevant information.

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Version History/

Date	Revisor	Version	Verifier	Remarks

Declare

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

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