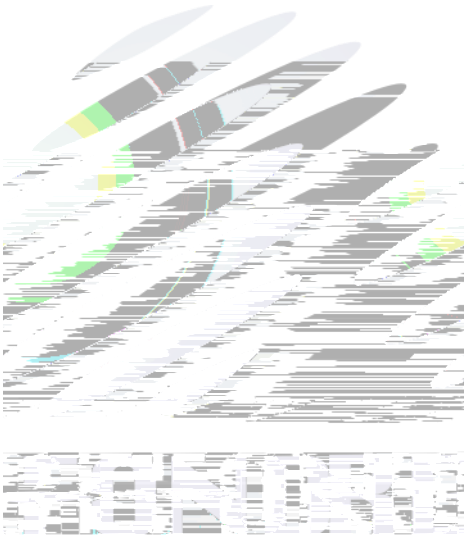
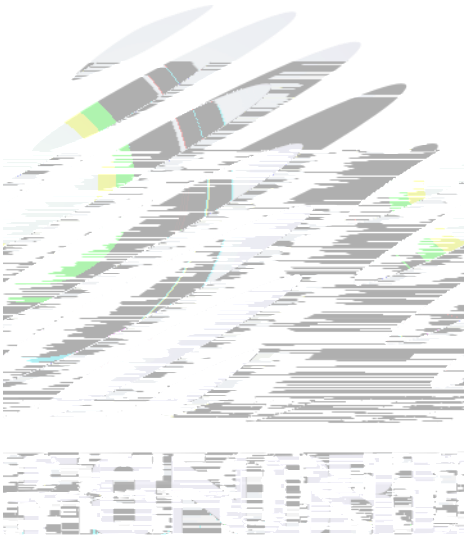
37 9 251EMC 9 36 /36 629.14 Tm[ )]T6

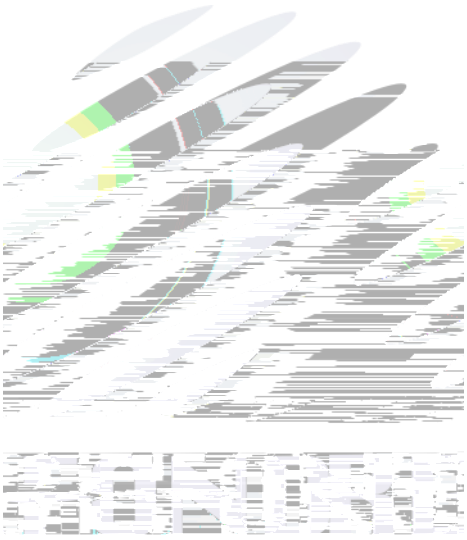




1. Description

1.1 General Description

The Colour LED which was fabricated using a red chip Package Dimension :



1.4 Package Dimension

Fig.1-1 Top view

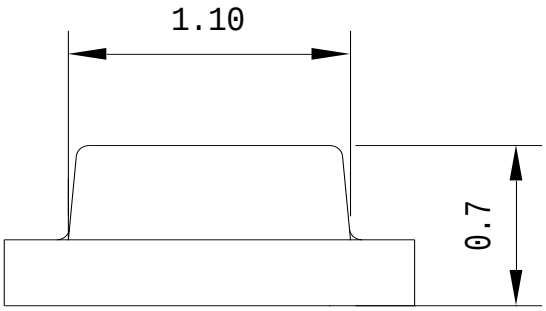


Fig.1-2Side view

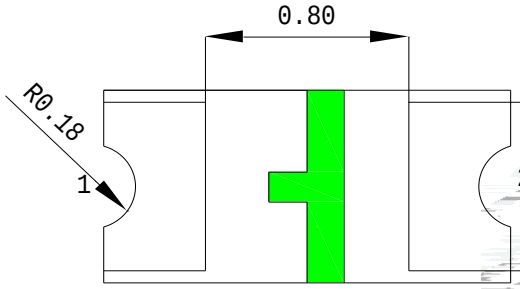


Fig.1-3Bottom view

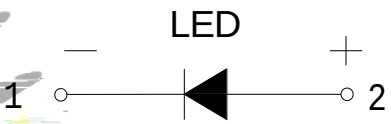


Fig.1-4Polarity

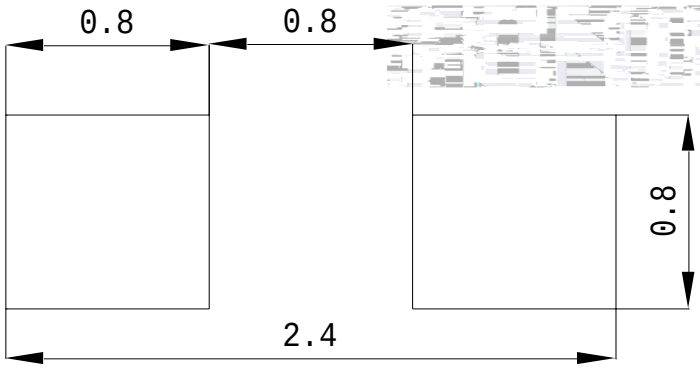


Fig.1-5Soldering patterns

Notes

1. All dimensions units are millimeters.

All dimensions tolerances are 0.2mm unless otherwise noted. ±0.2

1.5 Product Parameters

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

Item	Test Condition	Symbol	Value	Unit

Notes : V_R=5V For test conditions. V_R=5V

Parameter	Symbol	Rating	Units
Power Dissipation	P_d	46	mW
Forward Current	I_F	20	mA
Peak Forward Current Of Pulse	I_{FP}	60	mA
Electrostatic Discharge (HBM)	E_{SD}	2000	V
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
Junction Temperature	T_j	95	℃

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

Notes

1. 1/10 Duty cycle, 0.1ms pulse width. 0.1ms, 1/10.

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

3.The above dominant wavelength measurement allowance tolerance is±2nm. ±2nm.

4. The above luminous intensity 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. LED

1.6 Typical Optical Characteristics Curves

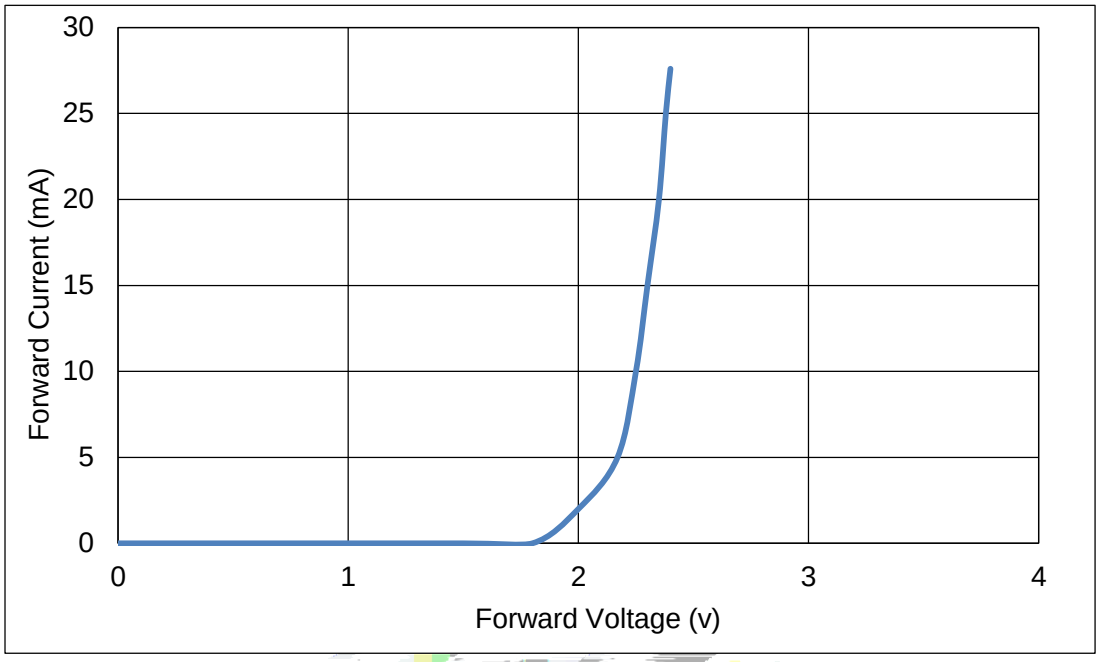


Fig 1-6 Forward Voltage Vs Forward Current

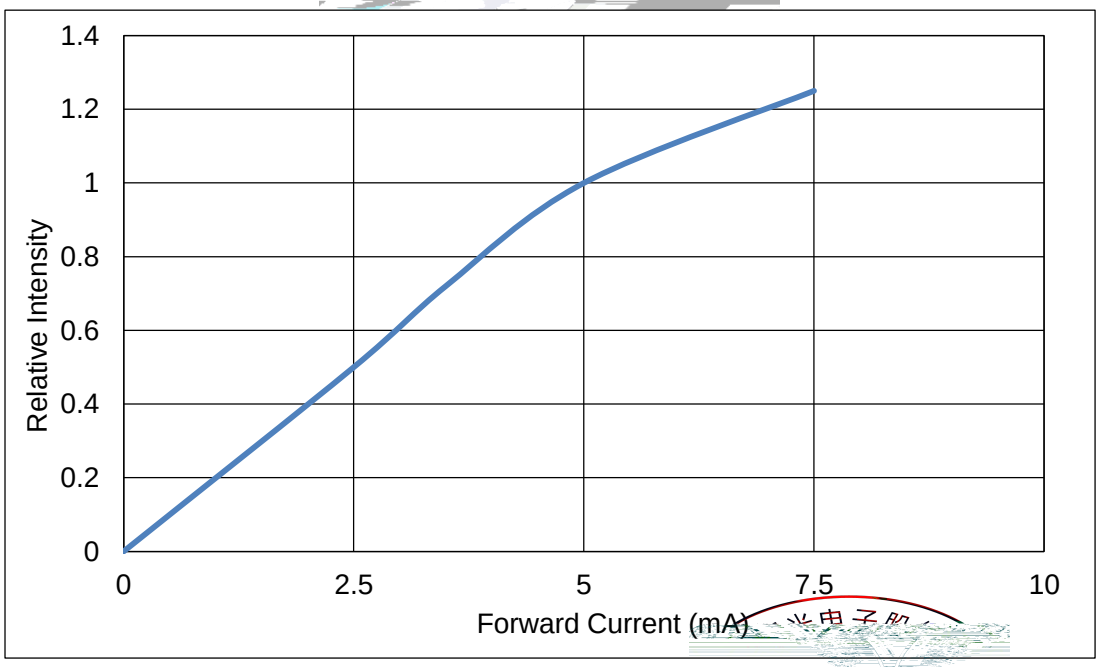


Fig 1-7 Forward Current Vs Relative Intensity

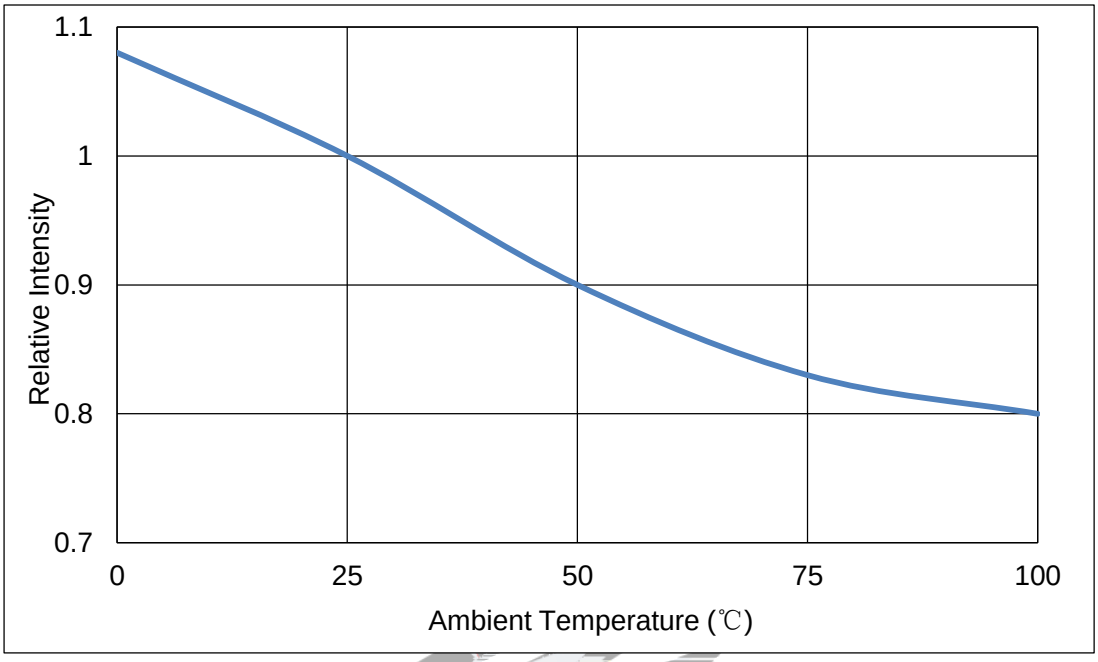


Fig 1-8 Pin Temperature Vs Relative Intensity

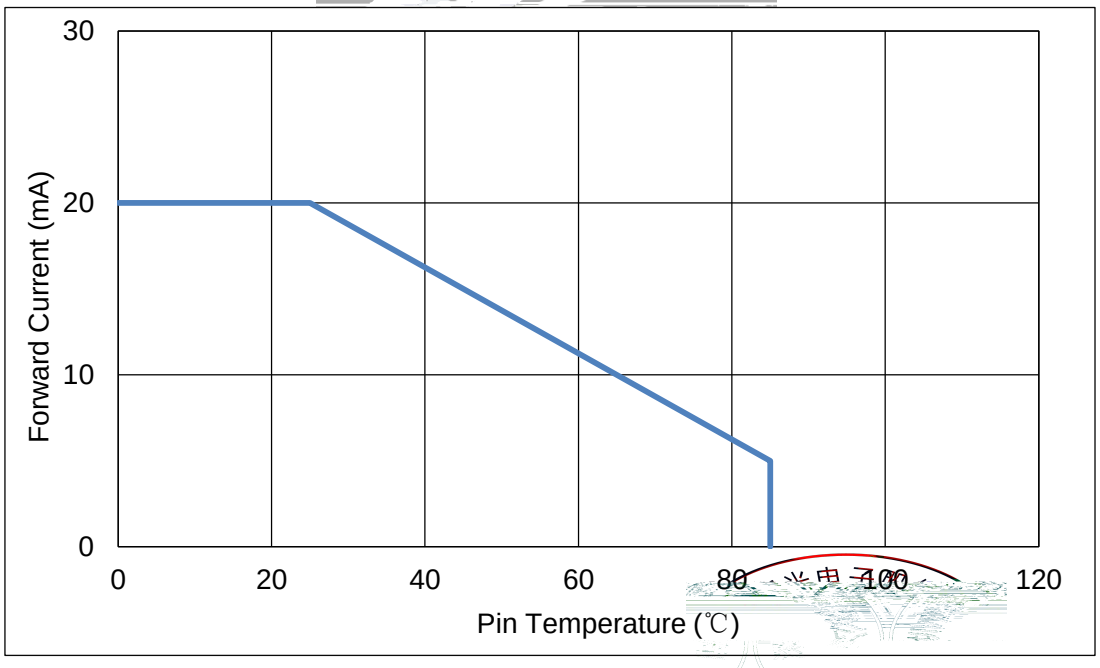


Fig 1-9 Pin Temperature VsForward Current

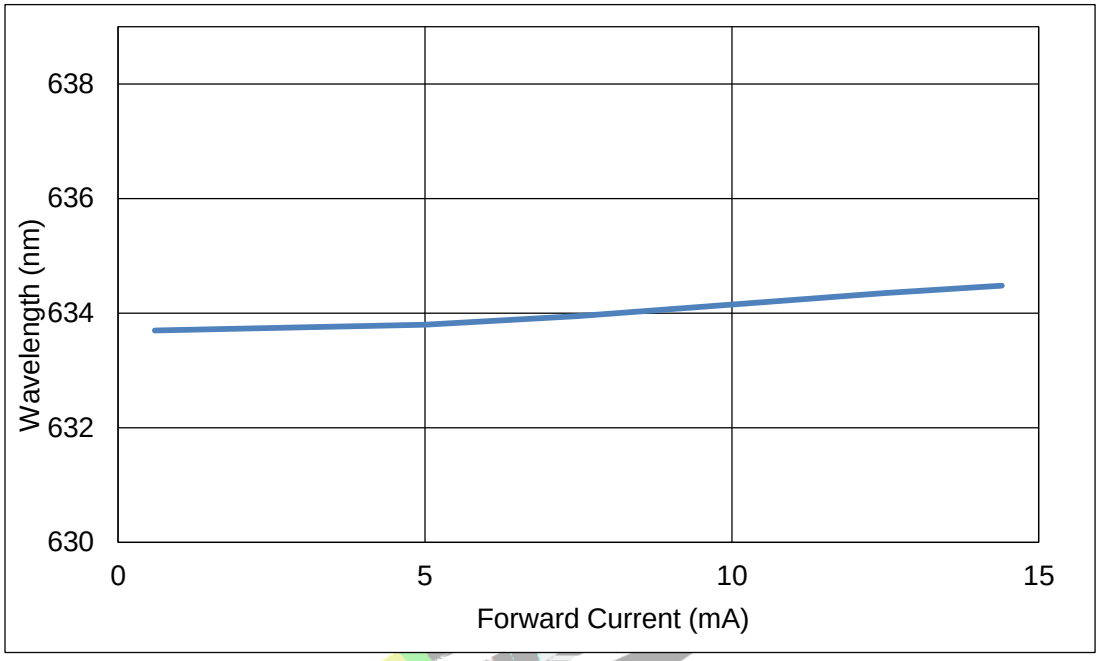


Fig1-10 Forward Current Vs Dominate Wavelength (Ta=25℃)

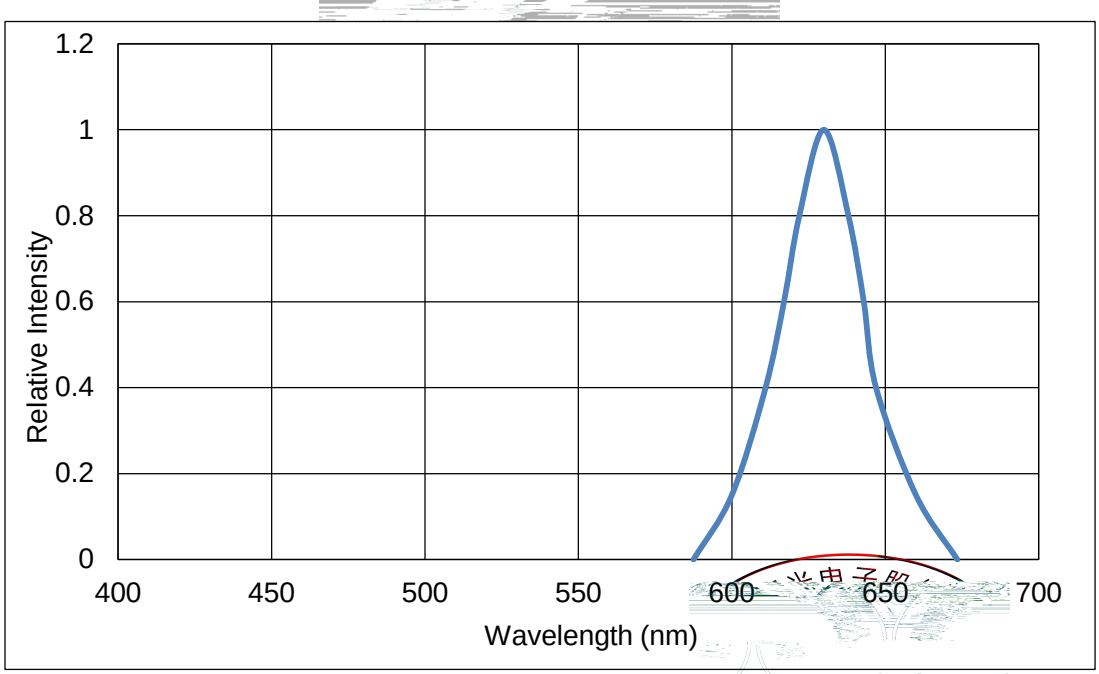


Fig 1-11 Relative Intensity Vs Wavelength (Ta=25℃)

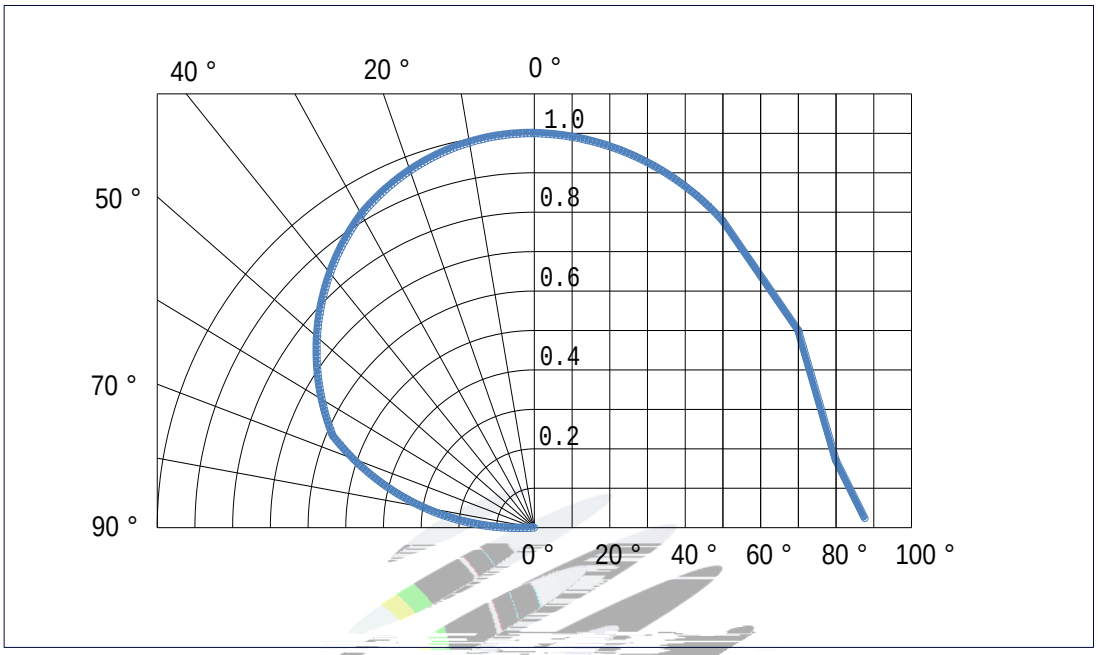


Fig 1-12 Diagram characteristics of radiation

2. Packaging

2.1 Packaging Specification

Package:4000pcs/reel. 4000pcs

2.1.1Carrier Tape Dimension

Fig.2-1 Carrier Tape Dimension

2.1.2Reel Dimension

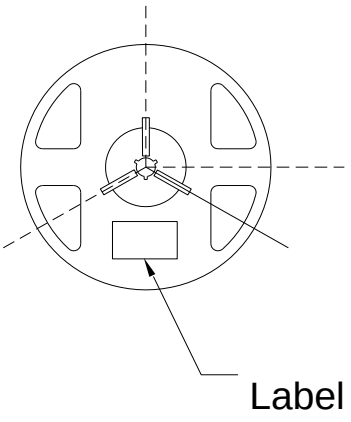


Table 2-1 Dimension

A	8.0 ± 0.1mm
B	178 ± 1mm
C	60 ± 1mm
D	13.0 ± 0.5mm

Fig.2-2 Reel Dimension

Notes
The tolerances unless mentioned ±0.1mm. Unit : mm

± 0.1

2.1.3Label Form Specification

Table 2-2 Parameter

PART NO.	Part Number
SPEC NO.	Spec Number
LOT NO.	Lot Number
BIN CODE	Bin Code
	Luminous flux
XY	Chromaticity Bin
V_F	Forward Voltage
WLD	Wavelength
QTY	Packing Quantity
DATE	Made Date

Fig. 2-3 Label Form Specification

2.2Moisture ResistantPacking

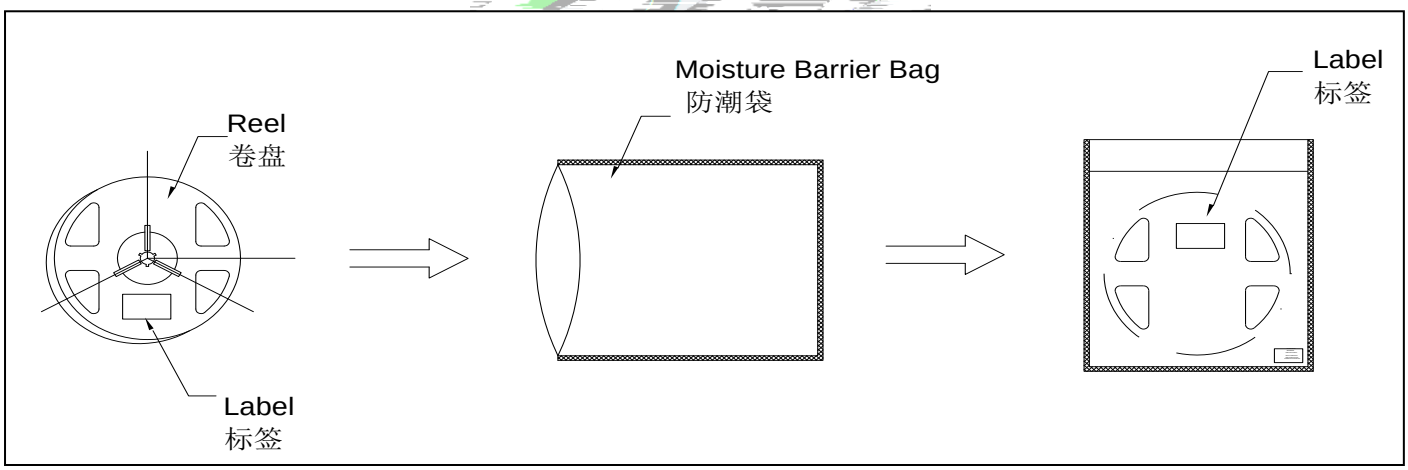


Fig.2-4 Moisture Resistant Packing

2.3Cardboard Box

Fig.2-5 Cardboard Box

2.4Reliability Test Items And Conditions

Table 2-3 Reliability Test Items And Conditions

Test Items	Ref.Standard	Test Condition	Time	Quantity	Ac/Re /
Reflow					

2.5 Criteria For Judging Damage

Table 2-4Criteria For Judging Damage

Test Items	Symbol	Test Condition	Criteria For Judgement	
			Min.	Max.
Forward Voltage	V_F	I_F=5mA	-	U.S.L*)x1.1
Reverse Current	I_R	V_R= 5V	-	U.S.L*)x2.0
Luminous Flux		I_F=5mA	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 pl atform,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 distr ibution, heat dissipation and others. / LED

LED

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

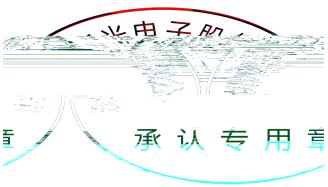
3.1SMT Reflow Soldering Instructions SMT

Fig.3-1 SMT Reflow Soldering Instructions SMT

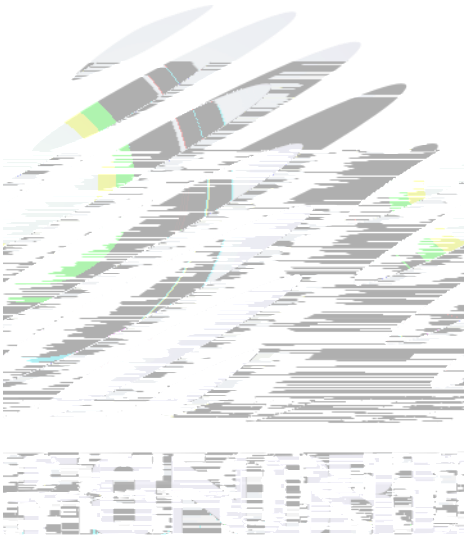
Table 3-1 Parameter

Average temperature rise speed	Tsmax T_P	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	(T_L)	217 °C
Time limited to maintain high temperature: The Time	(t_L)	60 - 150 60s-150s

Peak /Classification of temperature:


承认专用章

4. Handling Precautions



(4) 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

(5) 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

LED

(6) Storage

Table 4-1 Storage

Conditions		Temperature	Humidity	Time
Storage	Before Opening Aluminum Bag	≤ 30	≤ 75%	Within 1 Year From Date
	After Opening Aluminum Bag	≤ 30	≤ 60%	168hours 168
Baking		60 ± 5	-	≥ 24hours 24

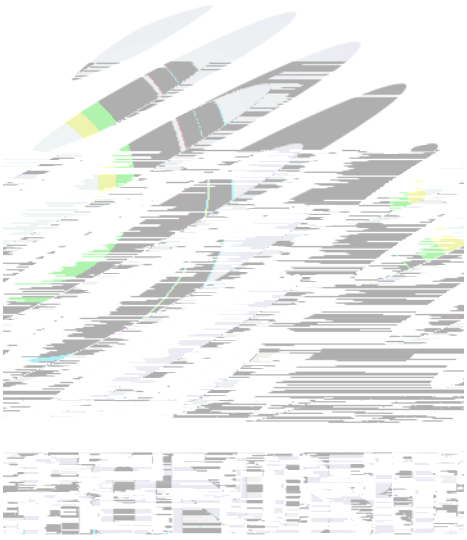
(7) If the moisture absorbent material（silica gel）has faded away or the LEDs have exceeded the storage time，baking treatment should be performed after unpacking and based on the following condition（60±5）℃ for above 24 hours.

60 ± 5 24

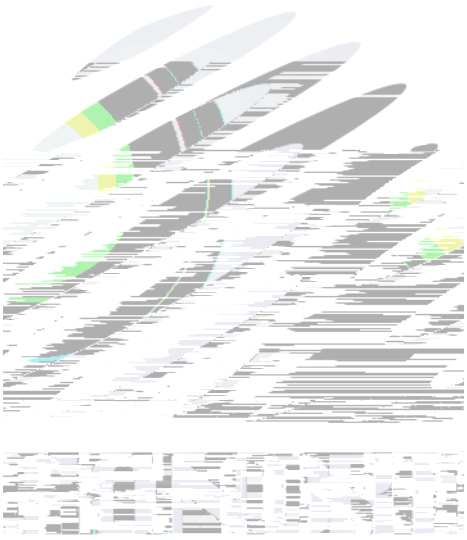
If the package is flatulence or damaged,please notify the sales staff to assist.

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

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



Date	Revisor	Version	Verifier	Remarks
2019.12.06				



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