

# SPECIFICATION

REFOND P/N

RF-WMRA30DS-HH-BZ

Mass Production



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BIN (IF=5mA)

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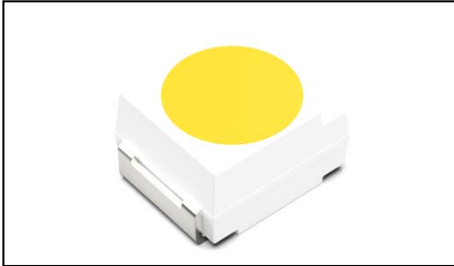
#### 2.1 Packaging Specification

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## 1. Description

### 1.1 General Description



The Yellow LED, which was fabricated by using a blue chip and the phosphor.  
Product Package: 3.50mmX2.80mmX1.84mm.

3.50mmX2.80mmX1.84mm

### 1.2 Features

PLCC Package.

Extremely wide viewing angle.

Suitable for all SMT assembly and solder process.

Available on tape and reel.

Moisture sensitivity level: Level 2.

RoHS compliant.

Qualifications: The product qualification test plan is based on the guidelines of AEC-Q101  
Stress Test Qualification for Automotive Grade Discrete Semiconductors

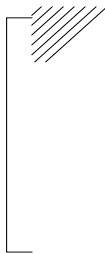
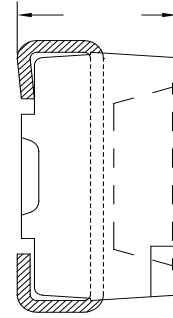
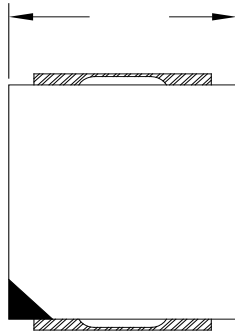
### 1.3 Application

Automotive Interior Lighting.

Switches.



## 1.4 Package Dimension



### Notes

All dimensions units are millimeters.

All dimensions tolerances are  $\pm 0.2\text{mm}$  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.	
					

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

Notes

1. 1/10 Duty cycle, 10ms pulse width. 10ms, 1/10.
2. The above forward voltage measurement allowance tolerance is  $\pm 0.1V$ .  $\pm 0.1V$ .
3. The above color coordinates measurement allowance tolerance is  $\pm 0.005$ .  $\pm$
4. The above luminous intensity measurement allowance tolerance  $\pm 10\%$ .  $\pm 10\%$ .
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.



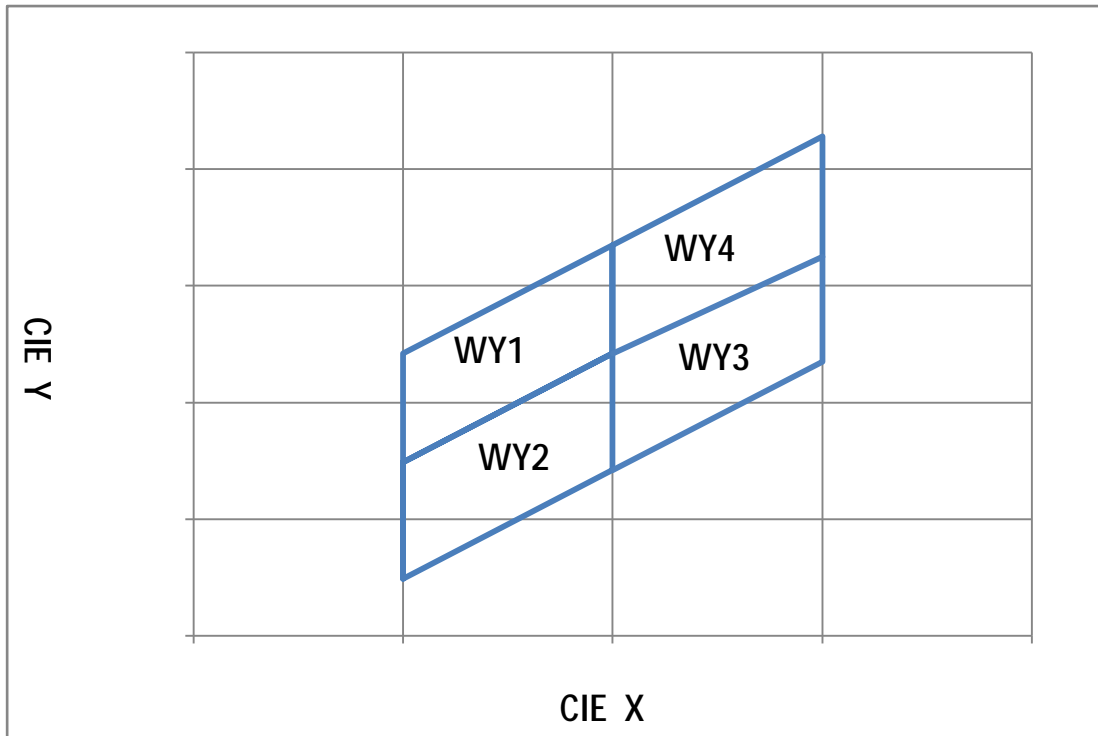


Fig. 1-6 The C.I.E Chromaticity Diagram CIE

Table 1-4







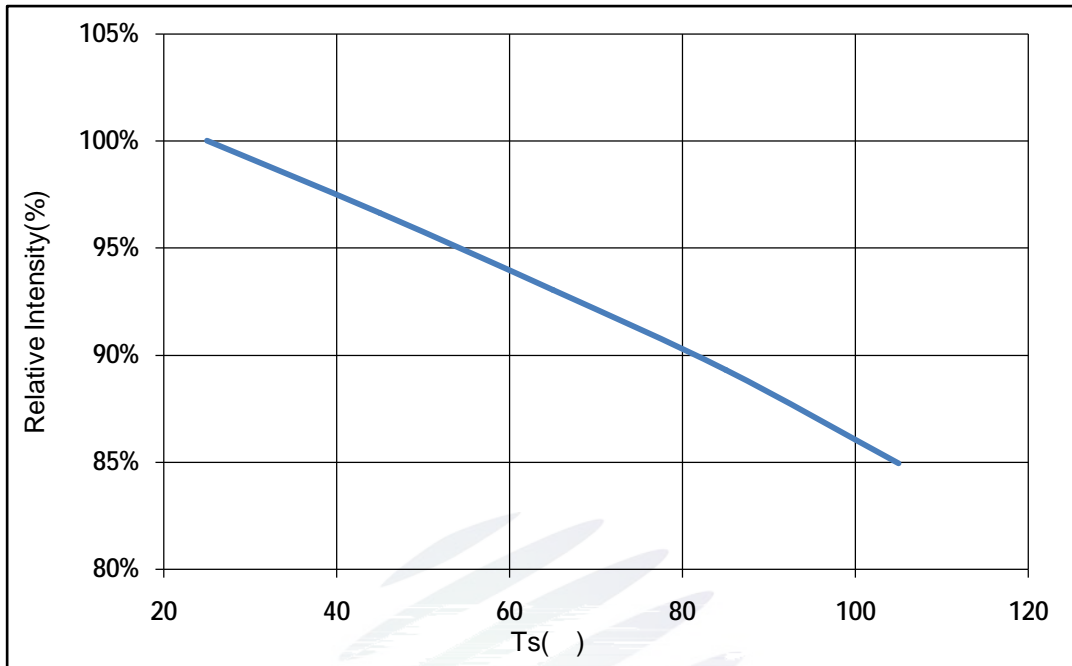



Fig. 1-9 Solder Temperature Vs Relative Intensity

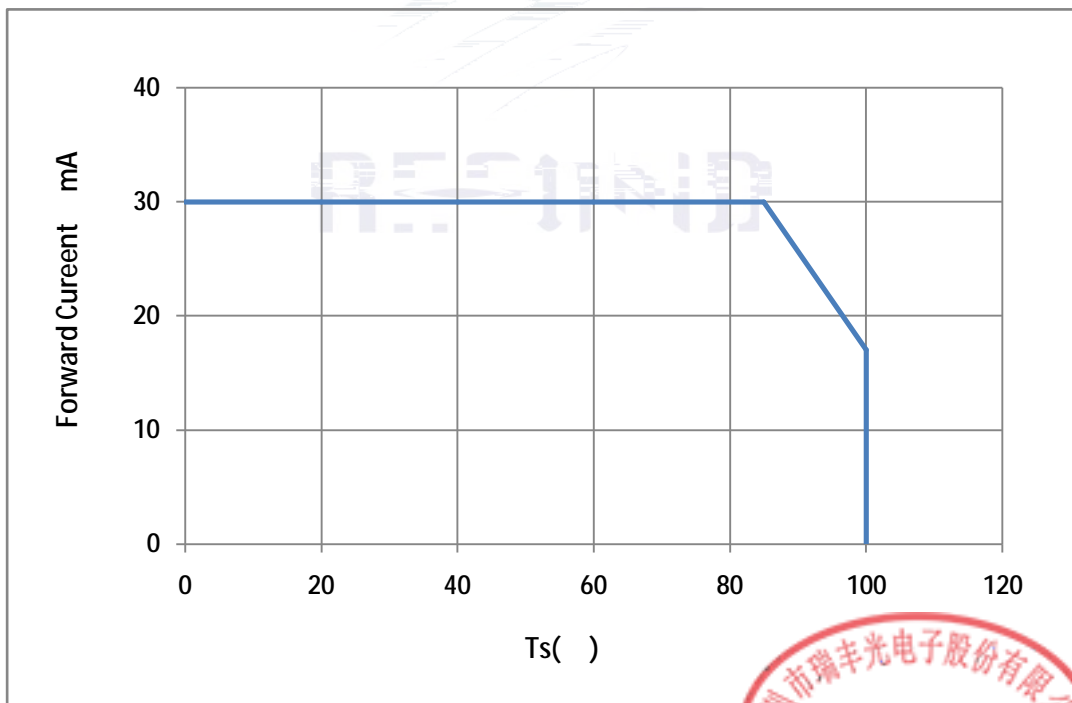


Fig. 1-10 Solder Temperature Vs Forward Current



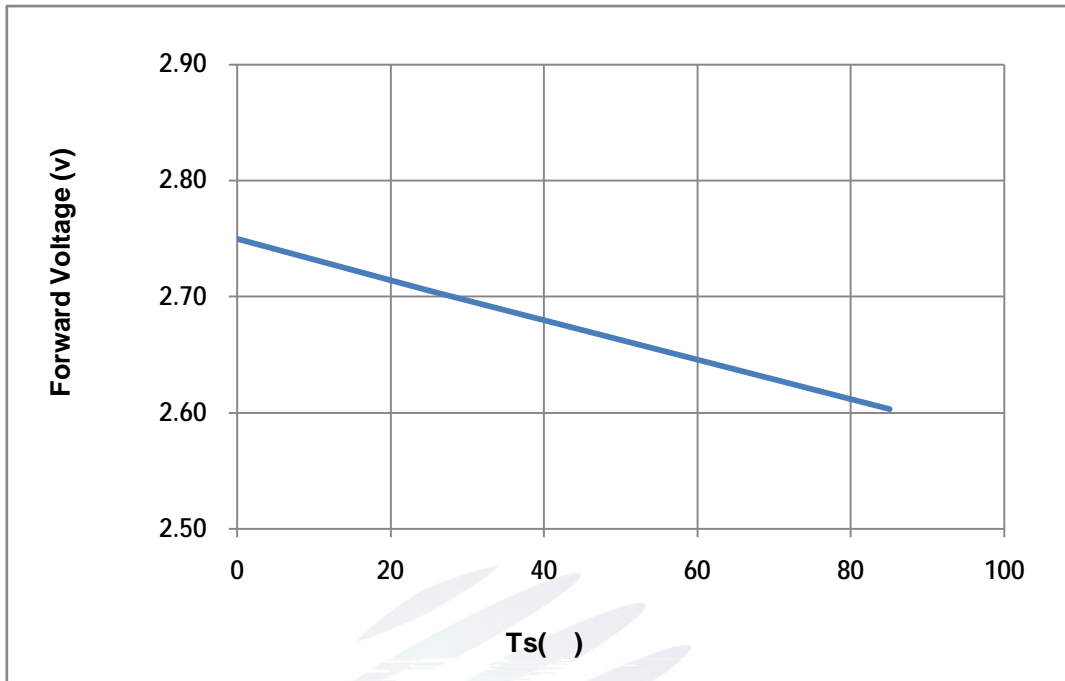


Fig. 1-11 Forward Voltage Vs Solder Temperature

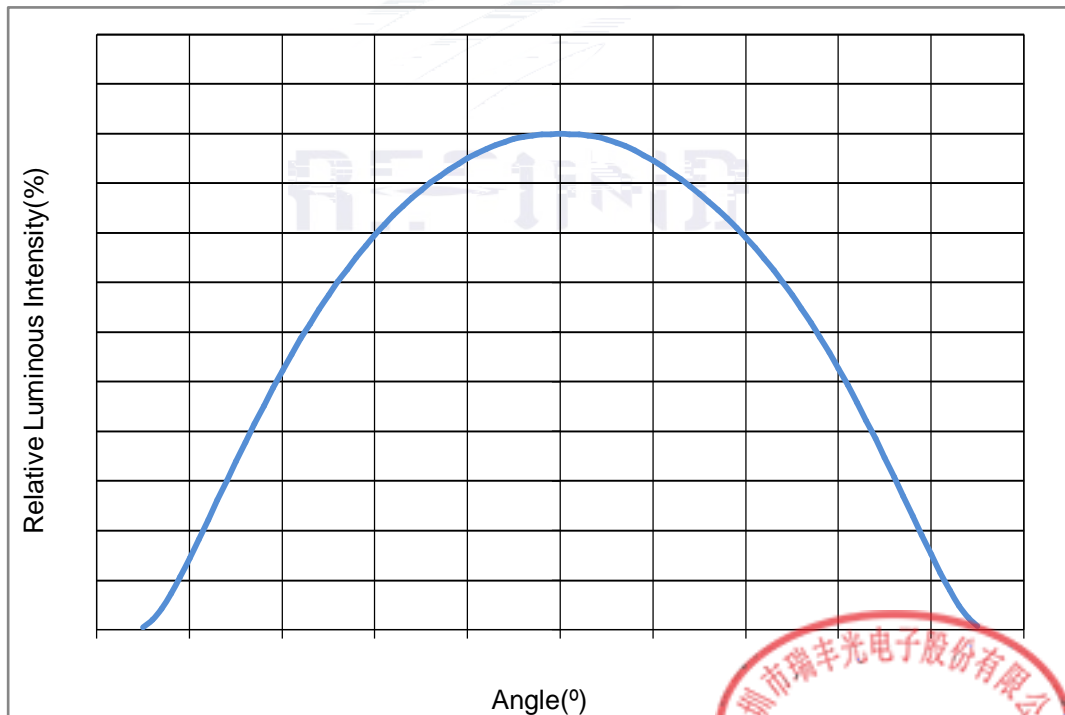


Fig. 1-12 Radiation diagram



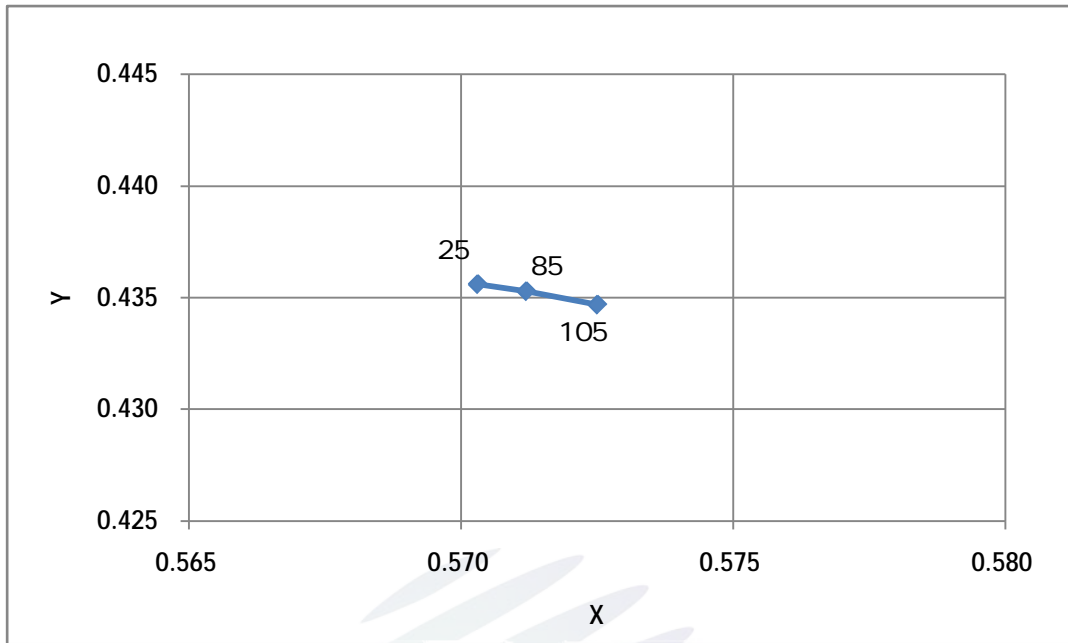


Fig. 1-13 Chromaticity Coordinate Shift Vs Forward Current

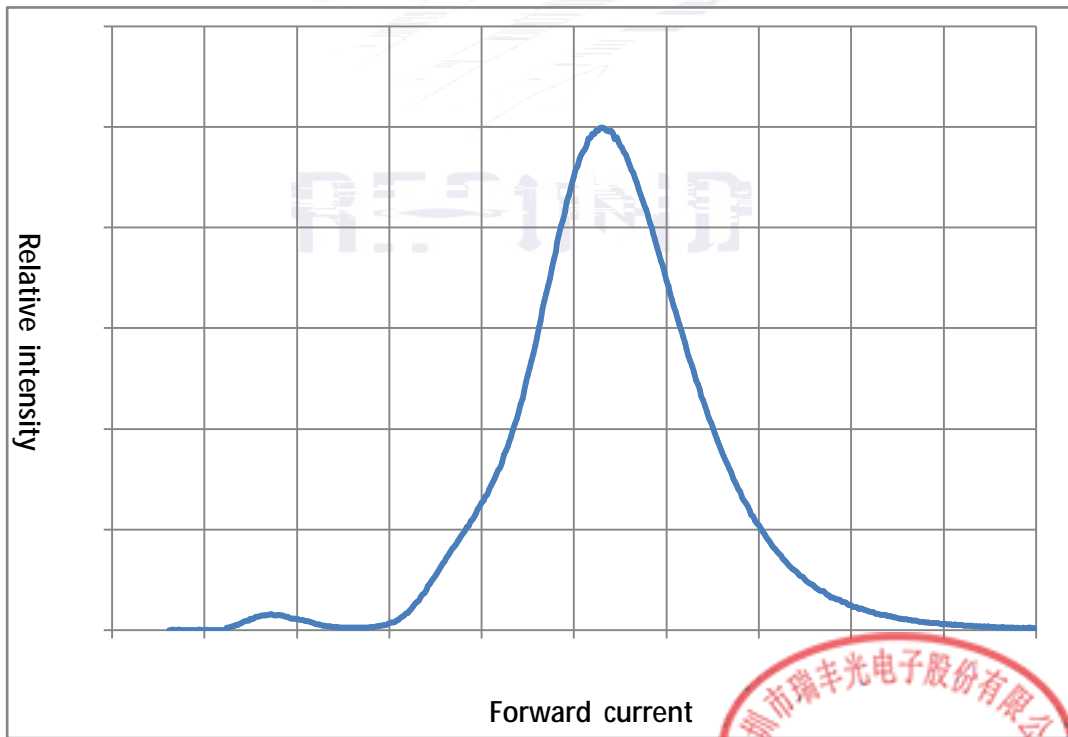
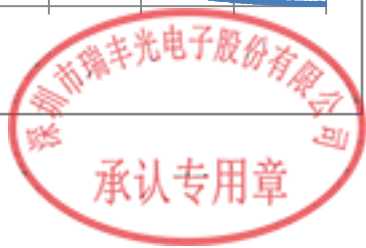


Fig. 1-14 Spectrum Distribution

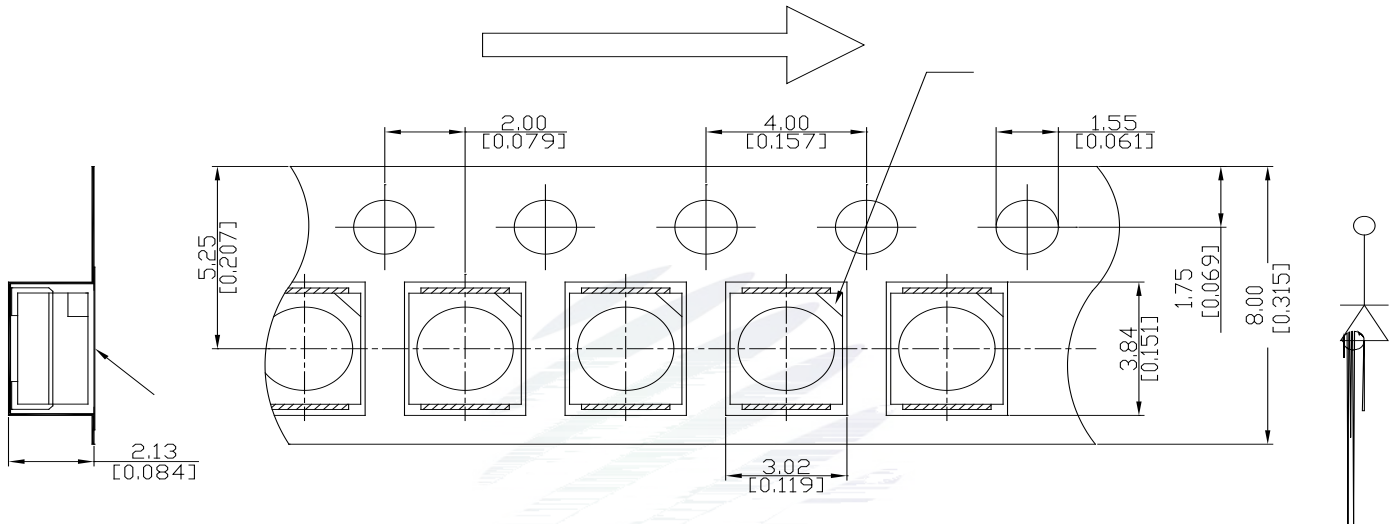


## 2. Packaging

### 2.1 Packaging Specification

Package:2000pcs/reel.

#### 2.1.1 Carrier Tape Dimension



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### 2.1.3 Label Form Specification

Specification



## 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	2times	20pcs.	0/1
MSL2 2	JESD22-A113	85 / 60%RH	168 hrs.	20pcs.	0/1
Thermal Shock	JEITAED-4701 300307	-40 15min 10s 125 15min	1000 cycle	20pcs.	0/1
Life Test	JESD22-A108	Ta=100 If=5mA	1000hrs.	20pcs.	0/1
High Temperature High Humidity Life Test	JESD22-A101	85 / 85%RH If=5mA	1000hrs.	20pcs.	0/1





### 3. SMT Reflow Soldering Instructions SMT

#### 3.1 SMT Reflow Soldering Instructions SMT

Fig.3-1 SMT Reflow Soldering Instructions SMT

Table 3-1 Reflow parameters

Average temperature rise speed	T <sub>max</sub>	T <sub>P</sub>	3 °C/	Max 3 °C/ s
Preheating: minimum temperature	(T <sub>min</sub> )		150 °C	
Preheating: Max temperature	(T <sub>max</sub> )		200 °C	
Preheating: Time	T <sub>min</sub>	T <sub>max</sub>	60 - 120	60s-120s
Time limited to maintain high temperature: the temperature		(T <sub>L</sub> )	217 °C	
Time limited to maintain high temperature: The Time		(t <sub>L</sub> )	60	Max 60s
Peak /Classification of temperature:	/	(T <sub>P</sub> )	260 °C	
Time limit classification of peak temperature time		t <sub>p</sub>	10	Max 10s

(T<sub>P</sub>) 5 °C Hold time within 5 °C with the actual peak temperature (TP) 30 Max 3.32 0.48 31.4



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)Whensoldering , do not put stress on the LEDs during heating.

3.1.1 Soldering Iron

3.1.2 Repairing

3.1.3 Cautions



## 4. Handling Precautions

### 4.1 Handling Precautions

(3) VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can

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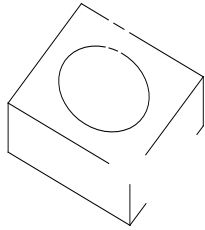


Fig 4-1 Handling Precautions

oltage only when it is ON or OFF.If the reverse voltage is applied to LED, migration



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%	Recommended for use within 24 hours
Baking		60±5	-	24hours 24

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Over Stress (EOS).

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







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Declare

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