

SPECIFICATION

REFOND P/N

RF-W*HP32DS-FH-I3

R&D

Mass Product

REFOND

Contentm - C /



1. Description

1.1

The White LED which was fabricated using a blue chip and a yellow phosphor



1.4 Package Dimension

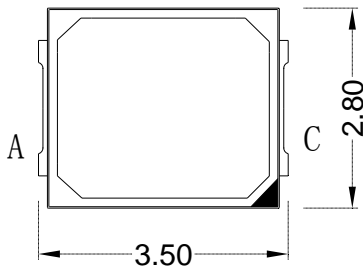


Fig.1-1 Top view

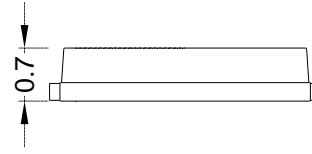


Fig.1-2 Side view

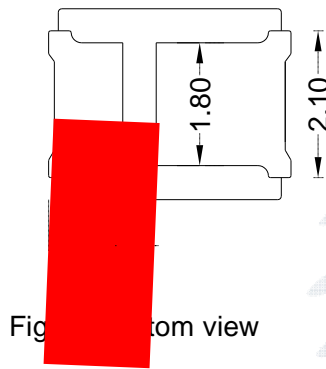
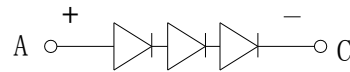


Fig.1-3 Bottom view



A: anode
C: cathode

Fig.1-4 Polarity

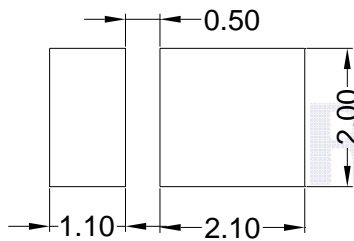


Fig.1-5 Soldering patterns

Notes

1. All dimensions units are millimeters.
2. All dimensions tolerances are ± 0.05 mm unless otherwise noted.

± 0.05

Notes

1. 1/10 Duty cycle, 0.1ms pulse width. 0.1ms, 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 0.005. 0.005.
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.
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
8. ESD yield is over 90% at 2000V ESD (HBM). ESD protection during products handling is needed. 90% LED ESD2000V

1.6 Bin Range Of Forward Voltage and Luminous Flux (IF=100mA)

BIN (IF=100mA)

Table 1-3

V _F V	Y0	Z0	
	8.6-9.0	9.0-9.4	
φ Im RF-W57HP32DS-FH-I3 RF-W6HP32DS-FH-I3	FC6	FC7	FC8
	140-150	150-160	160-170

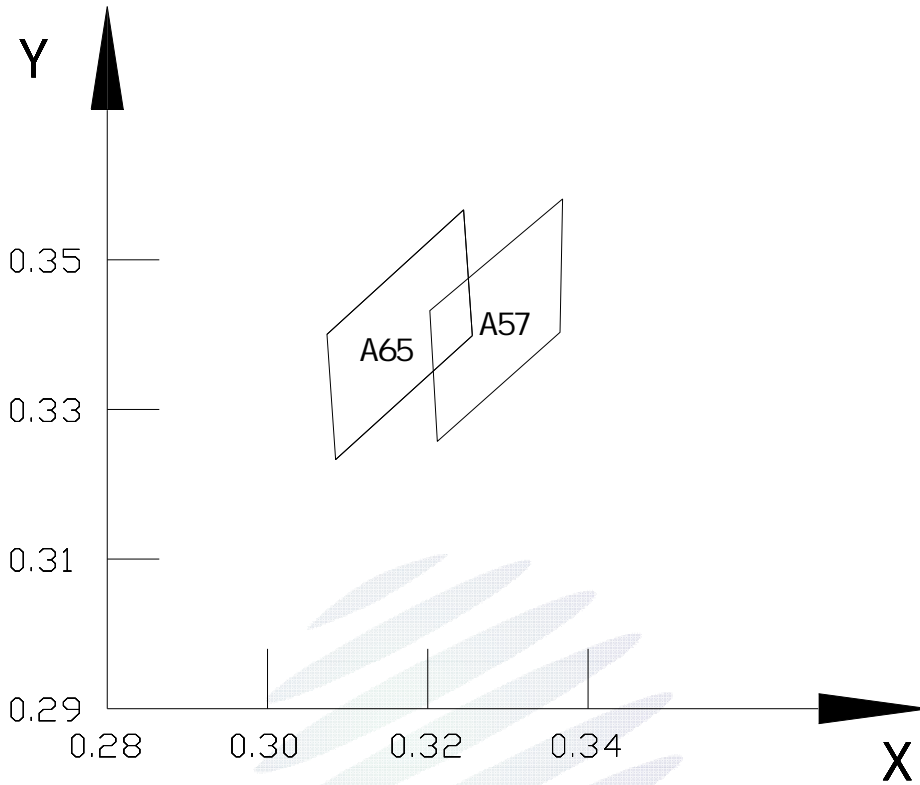


Fig 1-6 The C.I.E Chromaticity Diagram CIE

Table 1-4

6-step								
BIN CODE	X1	Y1	X2	Y2	X3	Y3	X4	Y4
A57	0.3203	0.3432	0.3368	0.3581	0.3365	0.3403	0.3212	0.3257
A65	0.3245	0.3567	0.3074	0.3400	0.3085	0.3233	0.3256	0.3399

1.7 Typical optical characteristics curves

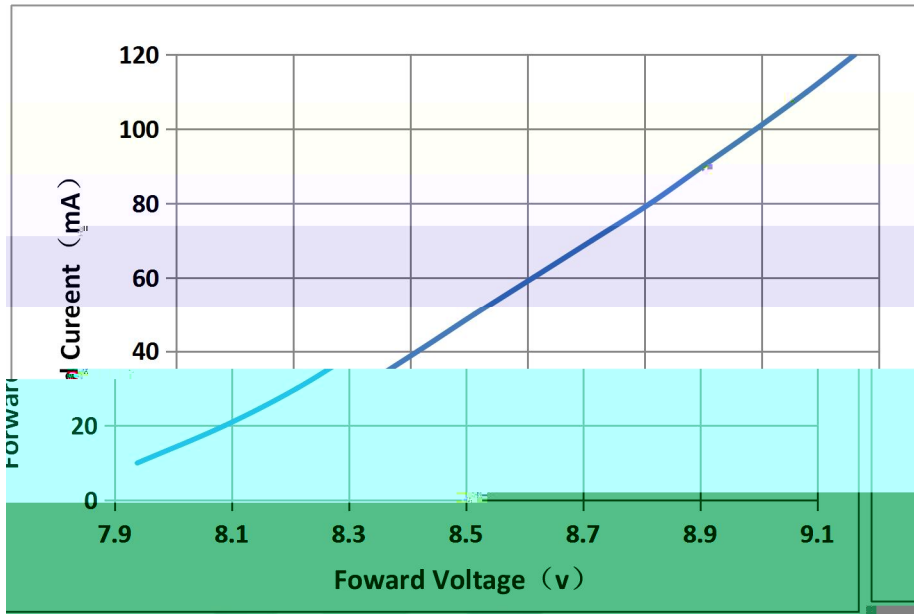


Fig 1-7 Forward Voltage Vs. Forward Current

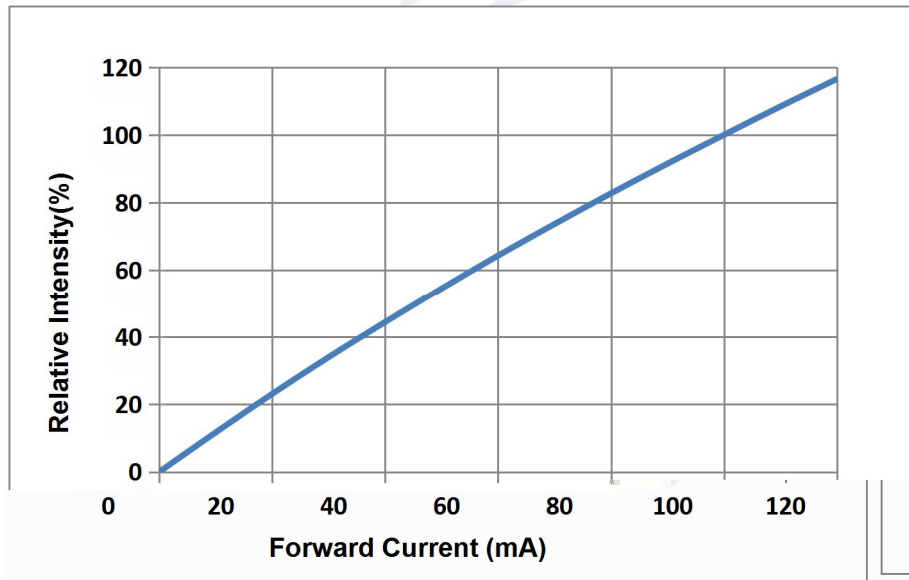


Fig 1-8 Forward Current Vs. Relative Intensity

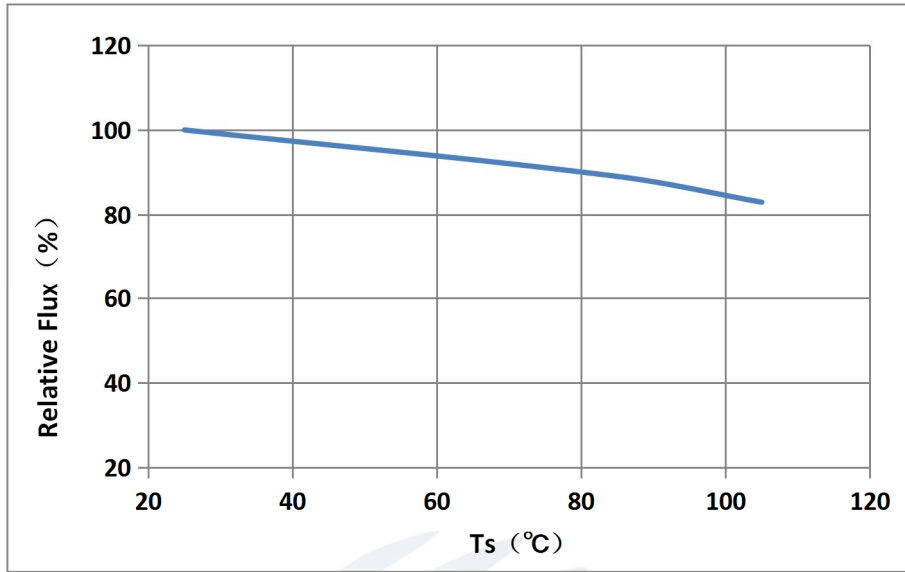


Fig 1-9 Solder Temperature Vs Relative Intensity

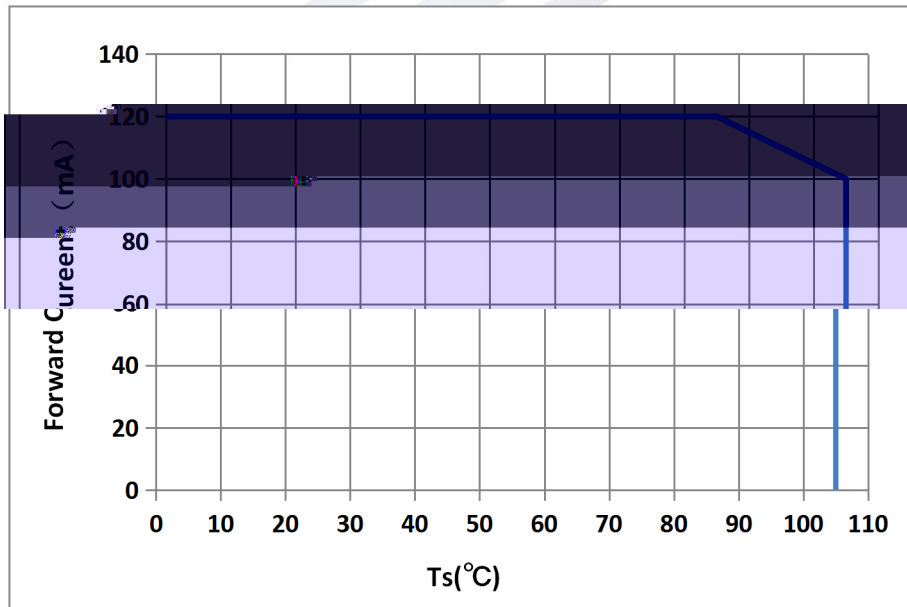


Fig 1-10 Solder Temperature Vs Forward Current

Tj 125

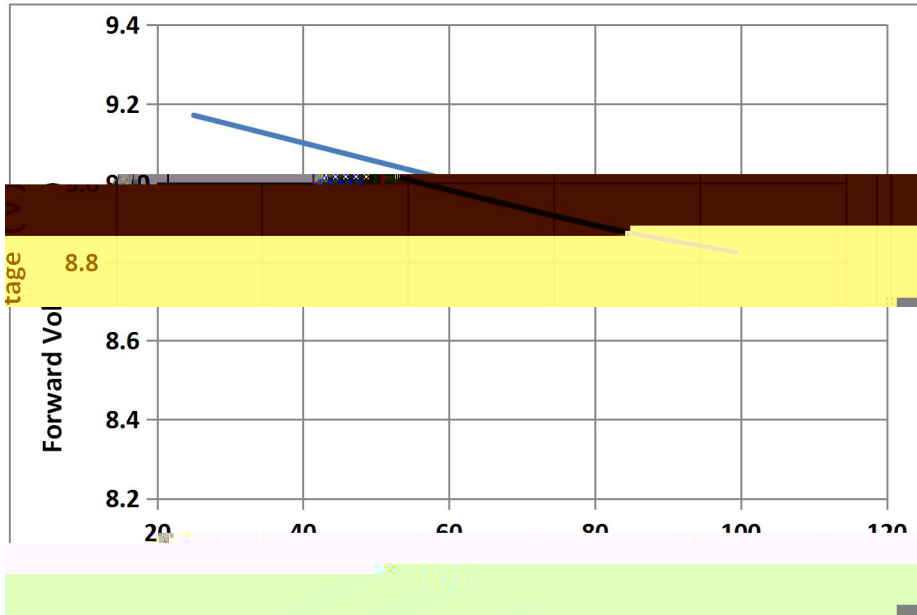


Fig 1-11 Forward Voltage Vs Solder Temperature

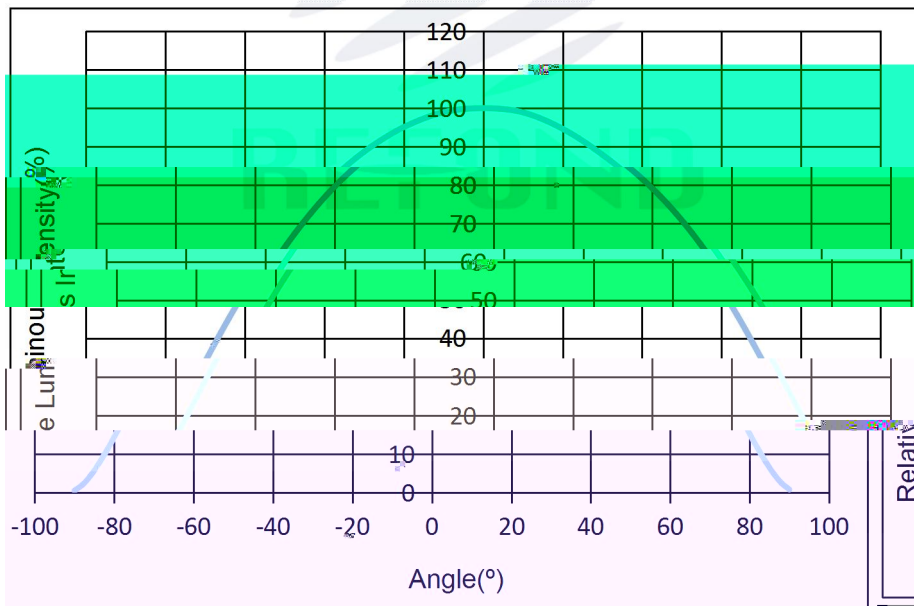


Fig 1-12 Radiation diagram

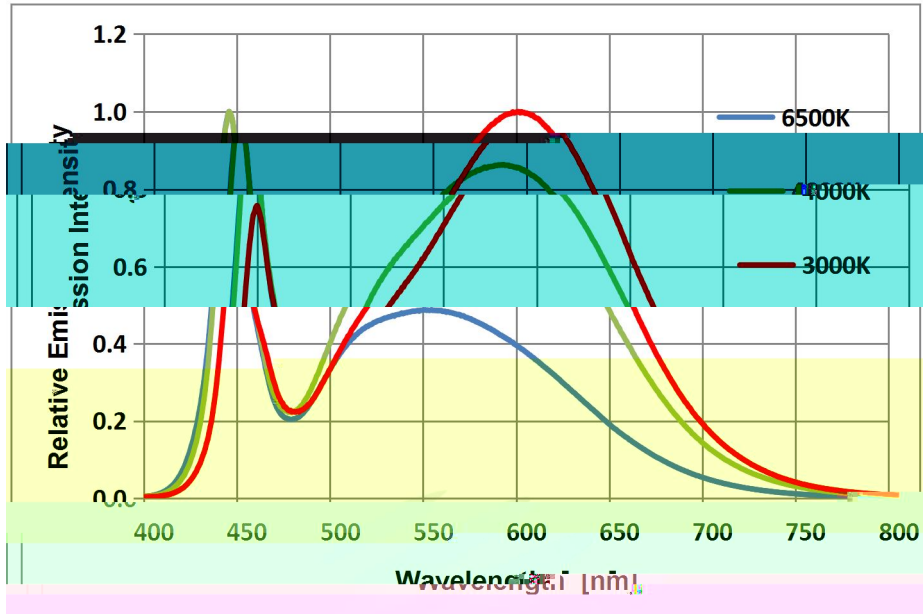


Fig 1-13 Spectrum Distribution

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2.1.3 Label Form Specification



Fig 2-3 Title

Table 2-2 Title

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

2.2 Moisture Resistant Packing

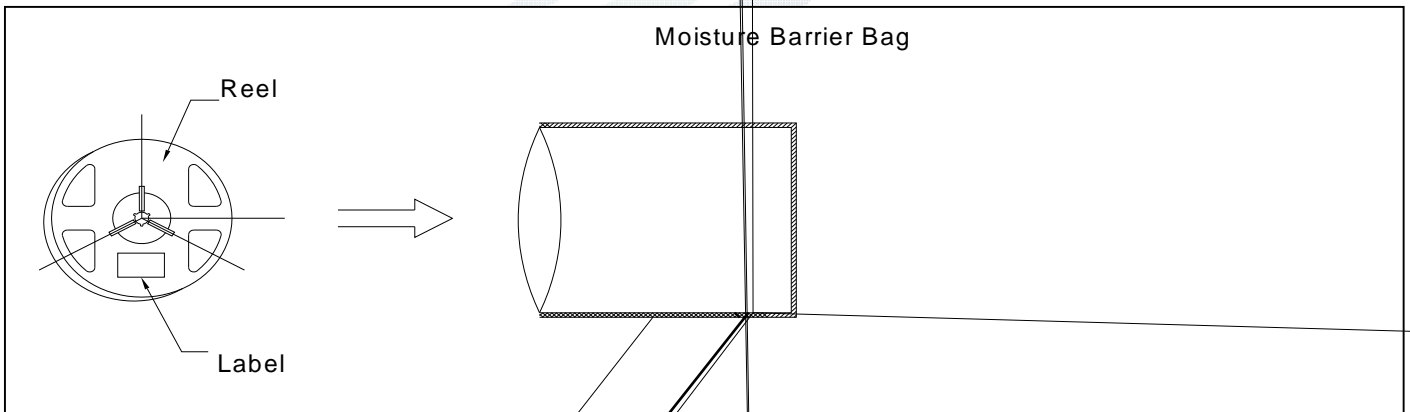


Fig.2-4Title

2.3 Cardboard Box

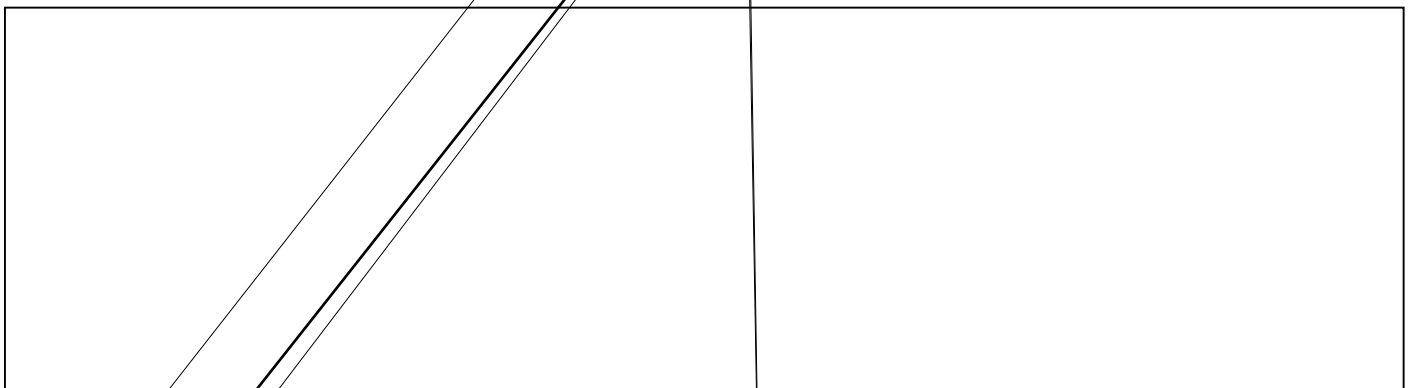


Fig.2-5Title

2.5 Criteria For Judging Damage

Table 2-4 Title

Test Items	Symbol	Test Condition	Criteria For Judgement	
			Min.	Max.
Forward Voltage	V_F	$I_F=100mA$	-	$(U.S.L^*) \times 1.1$
Reverse Current				



3. SMT Reflow Soldering Instructions SMT

3.1 SMT Reflow Soldering Instructions SMT

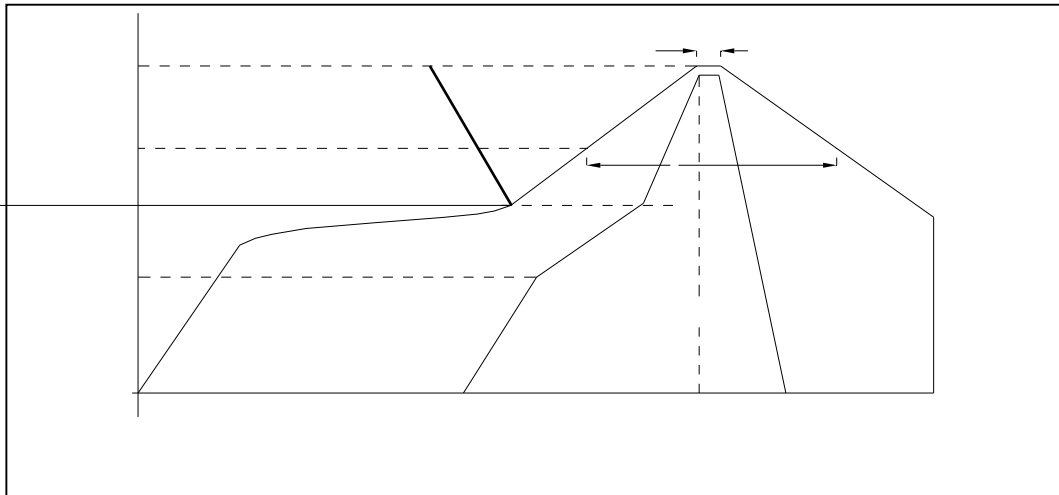


Fig.3-1Title

Table 3-1Title

Average temperature rise speed	T_{smax} T_P	3 °C/ Max 3 °C/
Preheating: minimum temperature	(T_{smin})	150 °C
Preheating: Max temperature	(T_{smax})	200 °C
Preheating: Time	T_{smin} T_{smax}	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 Max 60s
Peak /Classification of temperature:	/ (T_P)	260 °C
Time limit classification of peak temperature time	t_p	10 Max 10s
Hold time within 5 °C with the actual peak temperature (TP)	(T_P)	30 Max 30s
5 °C		
Cooling speed		6 °C/ Max 6 °C/
Needed time from 25 °C to T_p 25 °C		8 Max 8

(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 LED mating usage material. This is provided for informational purposes only and is not a warranty or endorsement. LED LED 100PPM. f -

(2) In order to prevent external 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 element is required to be less than 900PPM, the total content of Bromine element and Chlorine element in the external materials of LED products is required to be less than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement. H R



LED

(4) Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry.

Fig 4-1 Title

(5) In designing a circuit, the current through each LED can not exceed the absolute maximum rating specified for each LED. In the mean while, resistors for protection should be applied, E otherwise 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



package or resin. Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED.

LED

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%	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



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Declare

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