

# Specification

## 规格书

Customer Name : \_\_\_\_\_

Customer P/N : \_\_\_\_\_

Refond P/N : RF-XXHK13DS-ED-F -Y

Sending Date: \_\_\_\_\_

Technical Reference			Sample		Mass Product	
Customer approval			Refond approval			
Approval	Audit	Confirmation	Approval	Audit	Confirmation	
Qualified		Disqualified		Date		

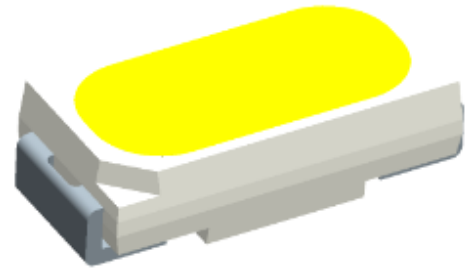
**Address:** 1-8th Floor, Building #1,10th Industrial Zone, Tian Liao Community, Gong Ming Area, Guang Ming New District, Shenzhen, China.

**Tel/** 0755-66839118      **Fax/** 0755-66839300      **Web/** [www.refond.com](http://www.refond.com)

**RF-XXHK13DS-ED-F-Y**

**Features**

- PLCC-2 Package.
- Extremely wide viewing angle.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Moisture sensitivity level: 3.                      3
- Package:4000pcs/reel.                      4000 /
- RoHS compliant. RoHS



SMT

**Description**

- The White LED which was fabricated using a blue chip and phosphors.  
LED

**Applications**

- Optical indicator.
- Indoor display.
- Decorative lighting.
- General suitable applications.

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Electrical / Optical Characteristics at Ts=25°C

Item	Coding	Symbol	test condition	Value			Unit
				Min.	Max.	Typ.	
Forward voltage	Rank F2	VF	IF=30mA	2.7	2.8	3.2	V
	Rank G1			2.8	2.9		V
	Rank G2			2.9	3.0		V
	Rank H1			3.0	3.1		V
	Rank H2			3.1	3.2		V
	Rank I1			3.2	3.3		V

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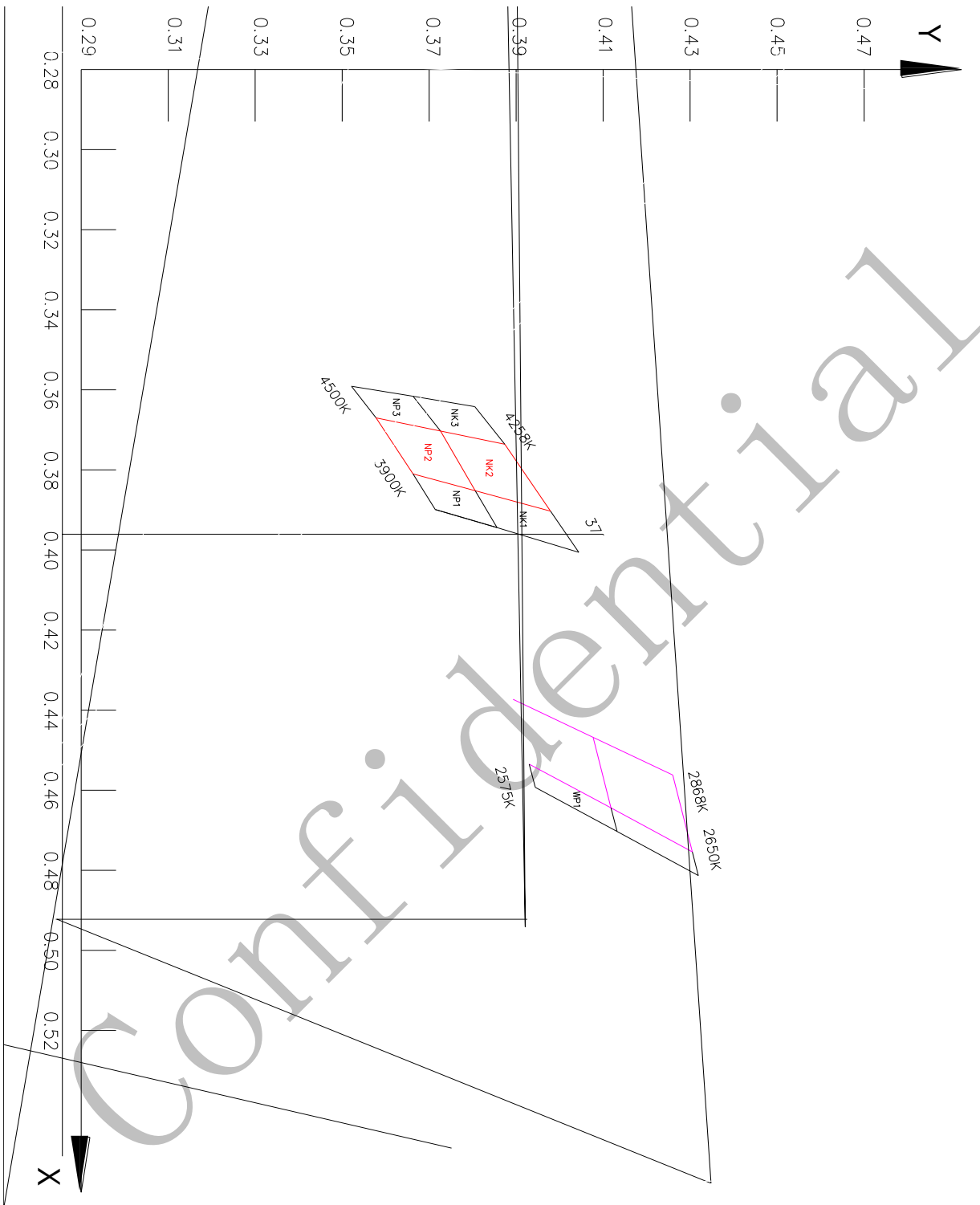
### Absolute Maximum Ratings at Ts=25°C

Parameter	Symbol	Rati
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- Note: 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 below color coordinates measurement allowance tolerance is 0.003.      0.003.
4. the above luminous flux 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

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The Chromaticity Diagram

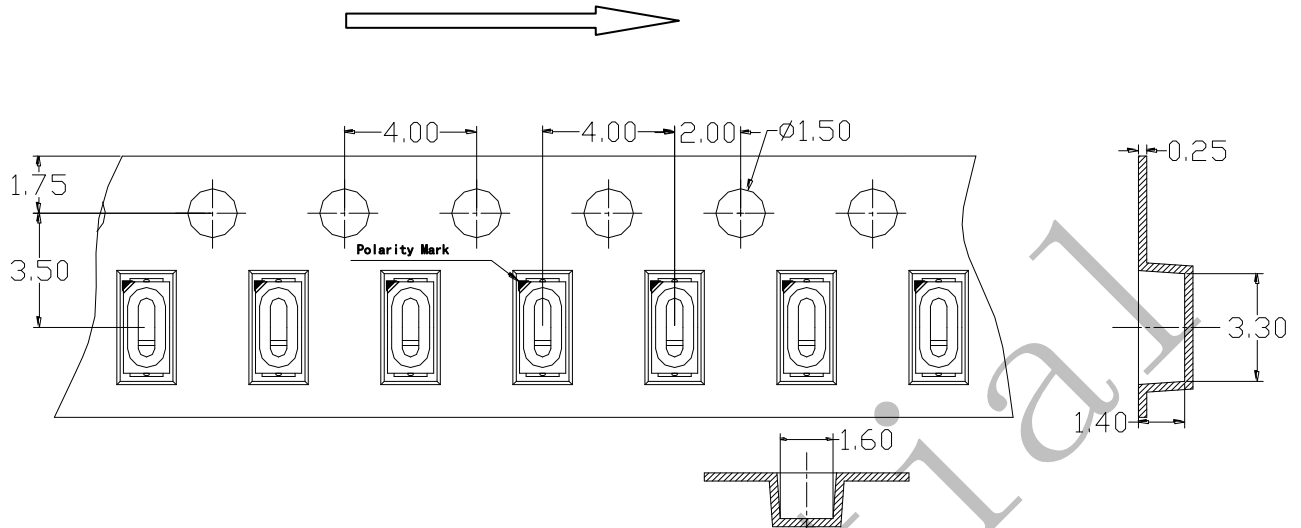




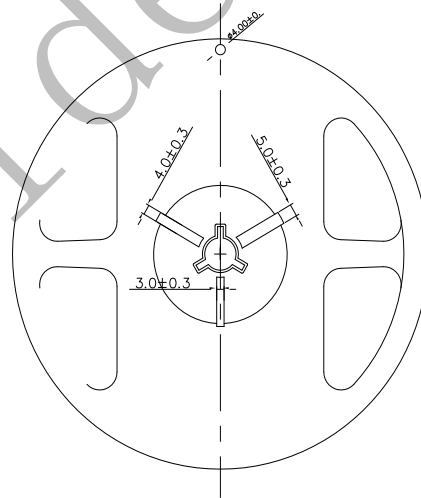
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## Packaging Specifications

### Carrier Tape Dimensions



### Reel Dimension



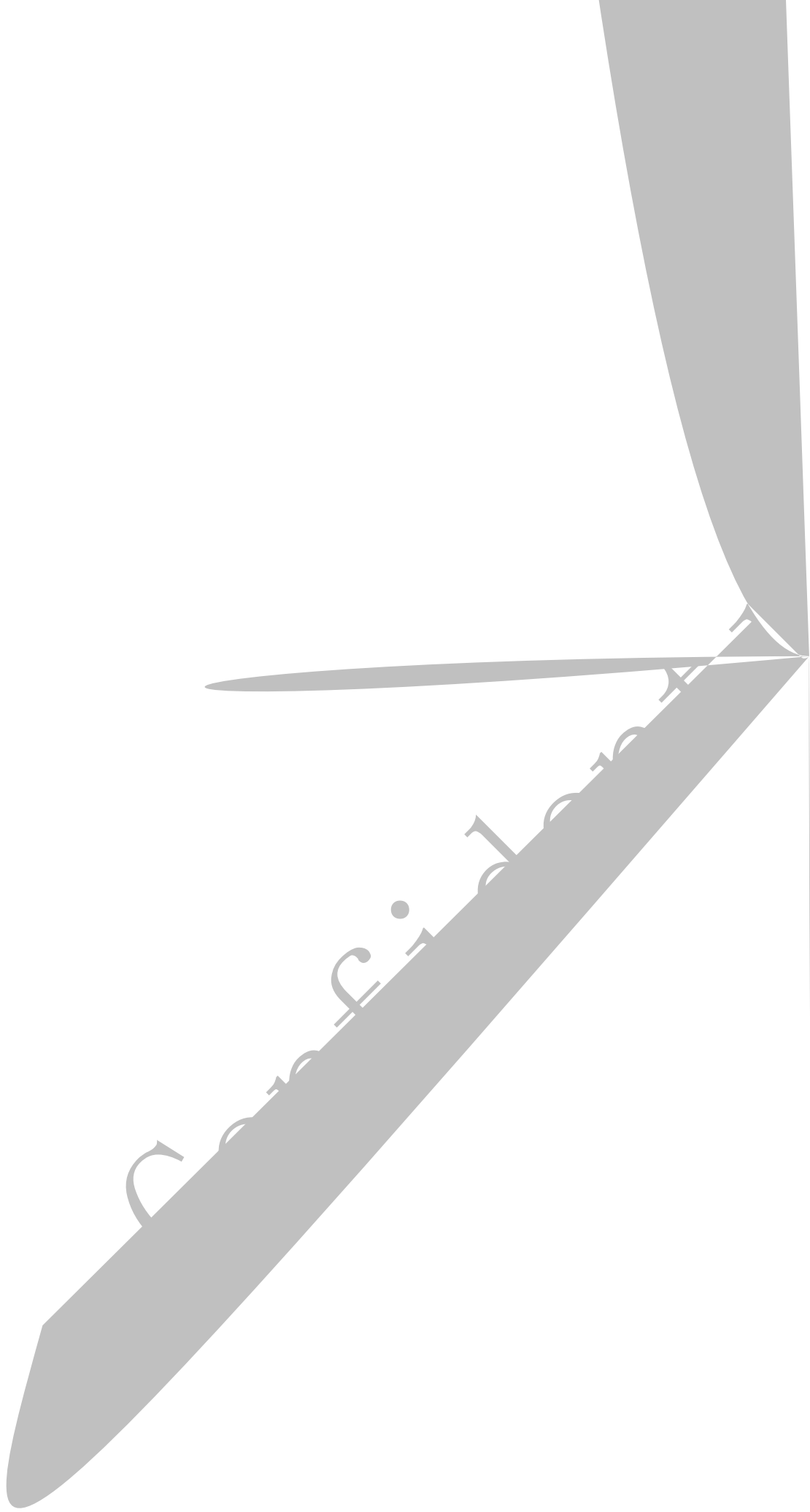
### Note:

The tolerances unless mentioned  $\pm 0.1$  mm. Unit : mm

$\pm 0.1$



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TG-2

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6> .Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust requiring special care during processing. In cases where a minimal level of dirt and dust particles cannot be guaranteed, a suitable cleaning solution must be applied to the surface after the soldering of components. Refond suggests using isopropyl alcohol for cleaning. In case other solvents are used, it must be assured that these solvents do not dissolve the package or resin. Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED.

## LED

7> . Storage

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

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12>.The customer shall not disassemble or analyze the LEDs without having consent from Refond. When defective LEDs are found, the customer shall inform Refond in writing directly before disassembling or analysis.

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13>.Other points for attention, please refer to our LED user manual.

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LED

## Declare

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

Both the customers and Refond will agree on official specifications of supplied products before a customer's volume production. The specification is valid only after be signed. And Refond reserves the right to further modify the specification for technical reference and sample without noticing the customers.

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