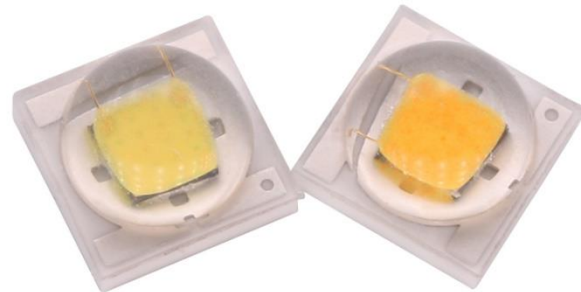


- . One of the best light quality in High-Power LED—Ra97
- . High-Power Ceramic Packaging LED – 3535 3W Series  
L35W-\*\*F11C1A-LOVV



## Product Brief产品简介

### Description（描述）

- . This white colored surface-mount LED size in standard package: 3.45x3.45mm
- . The L35W Full Spectrum series is designed for high CRI Typ. Ra97 Plant Growing. (R9 and R12 Typ. 90)
- . The L35 series uses the eutectic technology, with low thermal resistance and high reliability characteristics.

### Features And Benefits（特性优点）

- . High lumen output and efficacy
- . Designed for high current operation
- . Low thermal resistance
- . Cool white efficacy of up to 130 lm/W (@ 25 ° C, 350 mA)
- . Wide CCT range 2700~6500K
- . High color quality with CRI min. 97
- . Pb-free reflow soldering application

### Key Applications（应用）

- Indoor Lighting
- Outdoor Lighting
- Automotive
- Architectural Lighting
- Commercial Lighting
- Plant Growing
- Home Appliance

Table 1. Product Selection Table（产品目录）

Model No.	CCT			
	Color	Min.	Typ.	Max.
L35W-65F11C1A-LOVV	Cool White	6020K	6530K	7040K
L35W-57F11C1A-LOVV	Neutral White	5310K	5665K	6020K
L35W-50F11C1A-LOVV	Neutral White	4745K	5028K	5311K
L35W-40F11C1A-LOVV	Neutral White	3710K	3985K	4260K
L35W-35F11C1A-LOVV	Warm White	3350K	3500K	3650K
L35W-30F11C1A-LOVV	Warm White	2870K	3045K	3220K
L35W-27F11C1A-LOVV	Warm White	2580K	2725K	2870K

## Table of Contents

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Product Brief .....	1
Table of Contents .....	2
Performance Characteristics .....	3-5
Color Bin Structure .....	6-7
Relative Spectral Distribution .....	8
Dimensions and Pad .....	9
Packaging Information .....	10-11
Reflow Soldering Characteristics .....	12
Pre-caution for Using .....	13
Published By .....	14

## Performance

**Table 2. Electro Optical Characteristics (光电特性), Ta = 25°C, RH60%**

Color Temperature	Color Rendering	Typical Luminous Flux
	Typ.	IF=700mA
2725 ± 145K	Ra97 (R9: 90/R12: 90)	180
3045 ± 175K	Ra97 (R9: 90/R12: 90)	190
3500 ± 150K	Ra97 (R9: 90/R12: 90)	190
3985 ± 275K	Ra97 (R9: 90/R12: 90)	190
5028 ± 283K	Ra97 (R9: 90/R12: 90)	200
5665 ± 355K	Ra97 (R9: 90/R12: 90)	200
6530 ± 510K	Ra97 (R9: 90/R12: 90)	200

- Tolerance of measurements of the Luminous Flux is  $\pm 7\%$ .
- Ra measurement tolerance is  $\pm 2$ .
- Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
- The luminous intensity Iv was measured at the peak of the spatial pattern which may not be aligned with the mechanical axis of the LED package.
- The lumen table is only for reference.

**Table 3. Electro Optical Characteristics (光电特性), IF = 700mA, Ta = 25°C, RH60%**

Item	Symbol	Min	Typ	Max	Unit	Condition
Forward Voltage	VF	2.8	3.1	3.4	V	IF=700mA
Reverse Current	IR	-	-	10	μA	VR=5V
View Angle	2θ1/2	-	120	-	°	IF=700mA
Thermal Resistance	(Rth <sub>j-sp</sub> )	-	8.0	-	°C/W	IF=700mA
Electrostatic Discharge	ESD	8000	-	-	V	-

- Tolerance : VF :  $\pm 0.08V$ ,
- 2θ1/2 is the off-axis where the luminous intensity is 1/2 of the peak intensity
- Thermal resistance : RthJS (Junction / solder)

## Performance

**Table 4. Absolute Maximum Ratings**（最大额定参数）, Ta = 25°C, RH60%

Item	Symbol	Absolute Maximum Ratings	Unit
Forward Current	IF	1000	mA
Pulse Forward Current	IFP	1200	mA
Power Dissipation	PD	5	W
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-40~+100	°C
Storage Temperature	Tstg	-40~+100	°C
Junction Temperature	Tj	125	°C
Soldering Temperature	Tsld	230°C or 260°C for 10sec	

- IFP condition with Pulse: Width≤100μs Duty cycle≤1/10
- LED's properties might be different from suggested values like above and below tables if operation condition will be exceeded our parameter range. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.
- All measurements were made under the standardized environment of LumiS LED.

**Table 5. Forward Voltage Ranks**（电压分档）, IF = 700mA, Ta = 25°C, RH60%

CODE	MIN	MAX	UNIT
B	2.8	3.0	V
C	3.0	3.2	V
D	3.2	3.4	V

- Tolerance of measurements of the Forward Voltage is ±0.08V.

## Performance

Table 6. Luminous Flux Ranks (光通量分档),  $T_a = 25^{\circ}\text{C}$ , RH60%

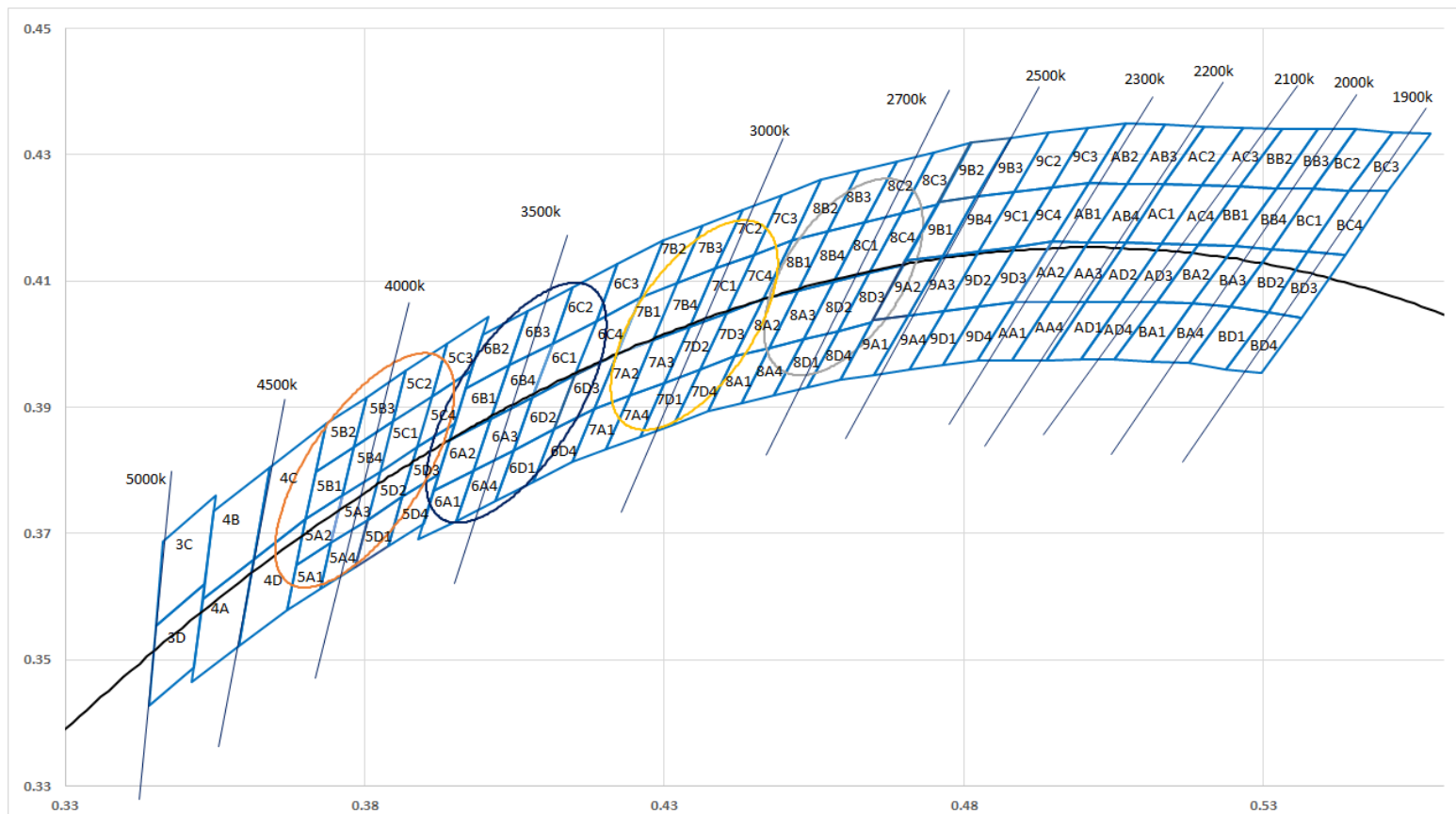
Color Temperature	Color Rendering	Luminous Flux (IF=700mA)		
	Typ.	Code	Min	Max
$2725 \pm 145\text{K}$	97	2B	160	180
		2C	180	200
		2D	200	220
$3045 \pm 175\text{K}$	97	2B	160	180
		2C	180	200
		2D	200	220
$3500 \pm 150\text{K}$	97	2B	160	180
		2C	180	200
		2D	200	220
$3985 \pm 275\text{K}$	97	2B	160	180
		2C	180	200
		2D	200	220
$5028 \pm 283\text{K}$	97	2C	180	200
		2D	200	220
		2E	220	240
$5665 \pm 355\text{K}$	97	2C	180	200
		2D	200	220
		2E	220	240
$6530 \pm 510\text{K}$	97	2C	180	200
		2D	200	220
		2E	220	240

- Tolerance of measurements of the Luminous Flux is  $\pm 7\%$ .
- Ra measurement tolerance is  $\pm 2$ .
- Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.

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## Color Bin Structure

Fig 1, CIE Chromaticity Diagram (CIE色区图), IF = 700mA, Ta = 25°C



- All measurements were made under the standardized environment of LumiS LED.
- In order to ensure availability, single color rank will not be orderable.



## Relative Spectral Distribution

Fig 3. Color Spectrum, Ta = 25°C, RH60%

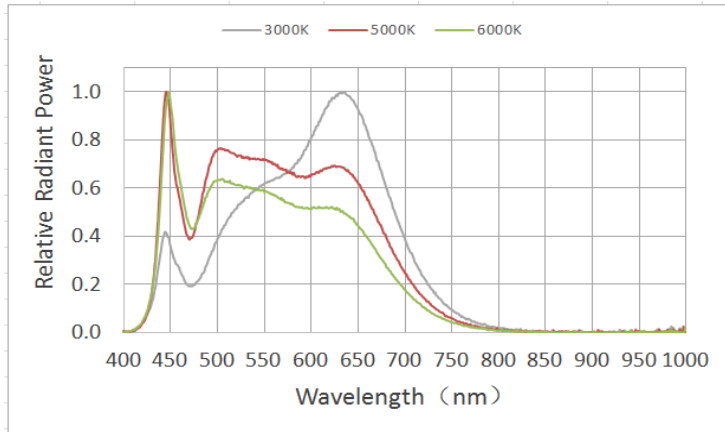


Fig 4. Viewing Angle Distribution, Ta = 25°C, RH60%

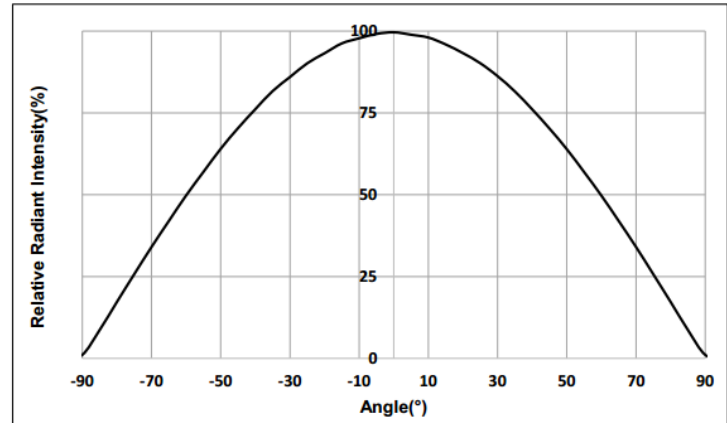


Fig 5. IF--- Luminous flux, Ta = 25°C

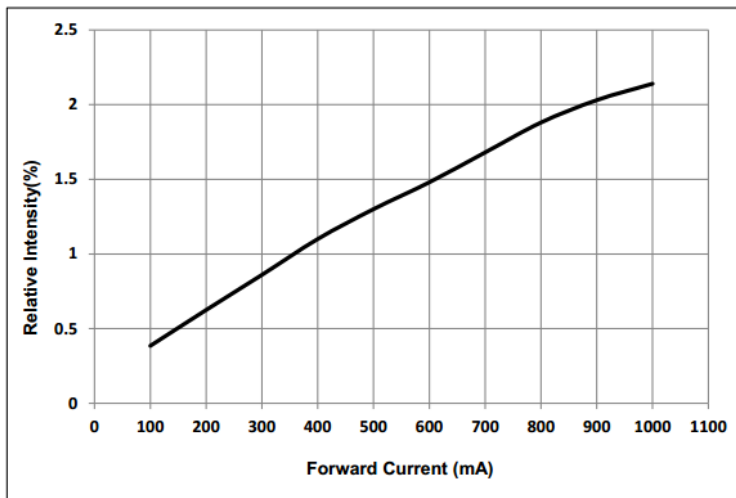
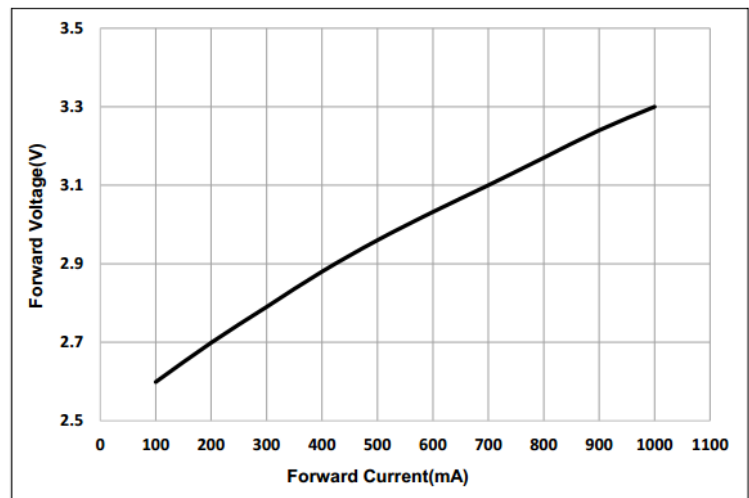


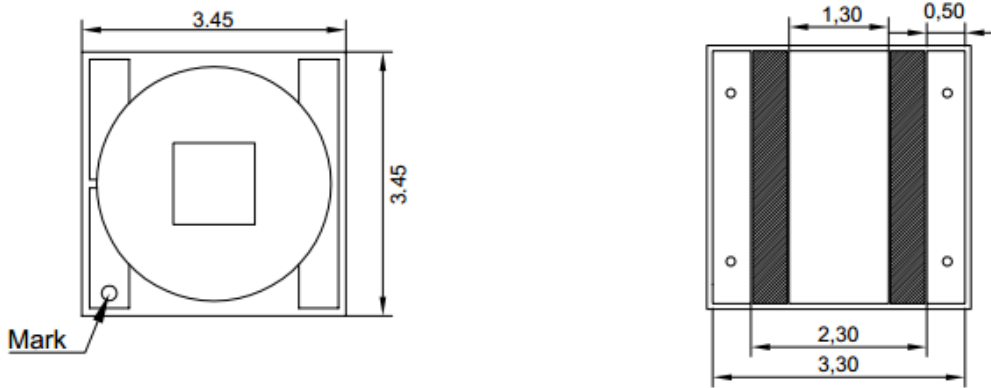
Fig 6. Forward Voltage vs. Forward Current, Ta = 25°C





## Dimensions and Pad

Fig 7. Mechanical Dimensions (产品尺寸)



- All dimensions are in millimeters.
- Scale : none
- Undefined tolerance is  $\pm 0.05\text{mm}$

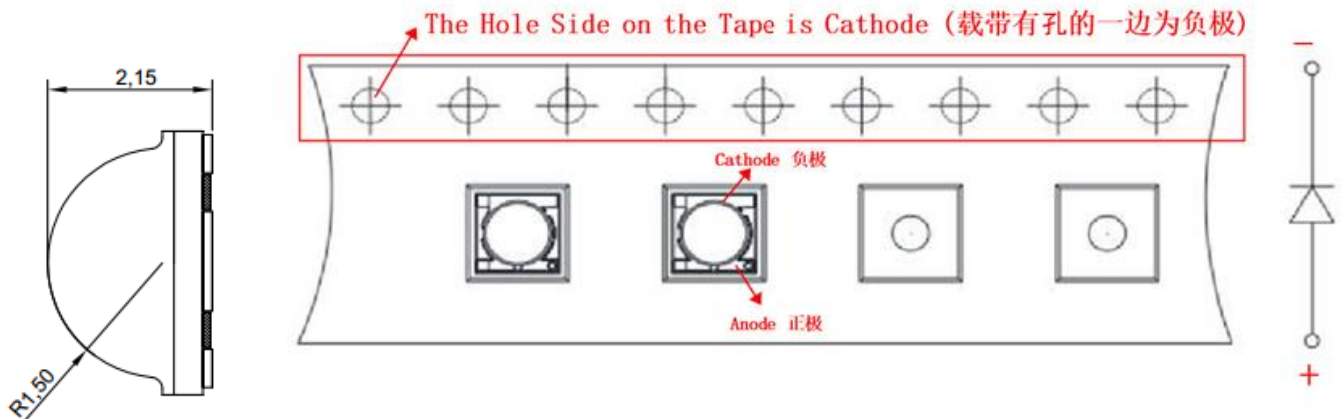
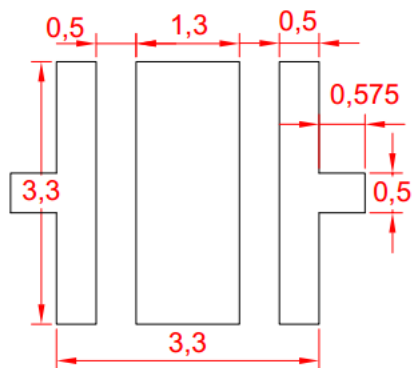
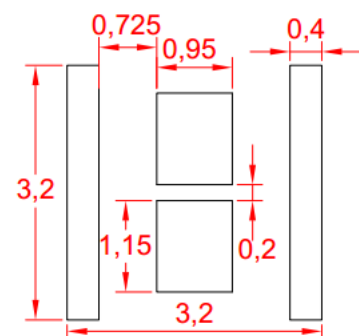


Fig 8. Recommended Solder Pad



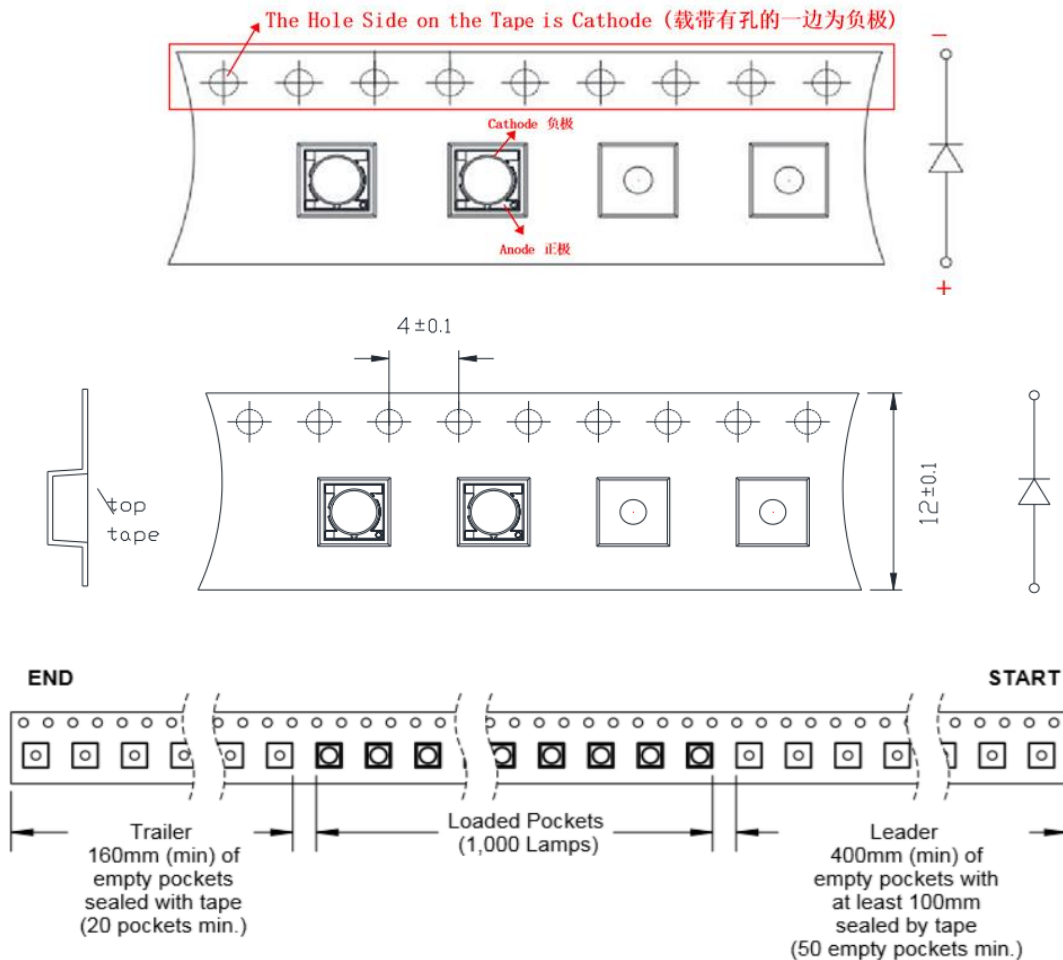
Recommended PCB Solder Pad



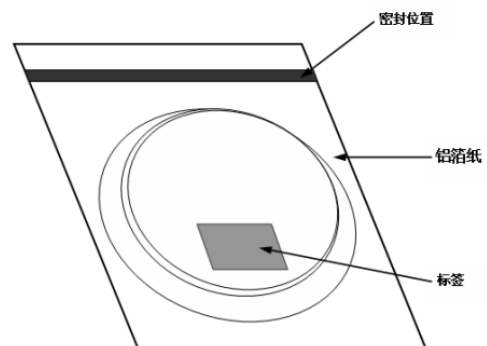
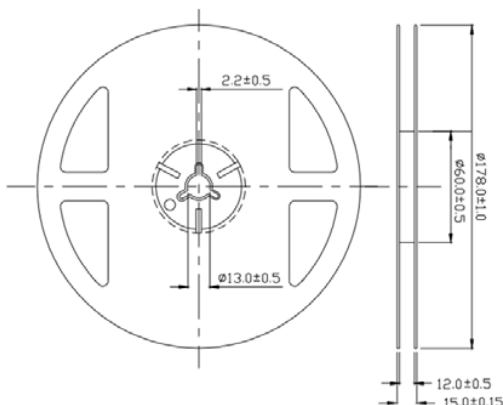
Stencil: 0.12mm  
Recommended Stencil Pattern

## Packaging Information

Fig 9. Reel Packaging 1000pcs/Reel (卷带包装, 1000pcs/卷)

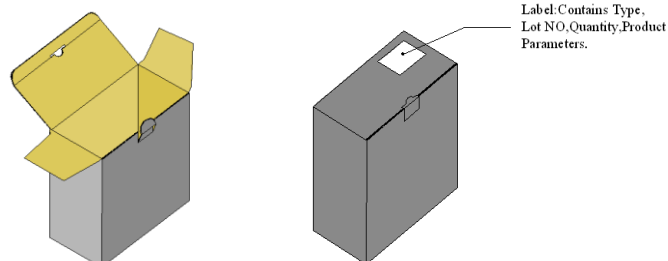


- Quantity : Max. 1000pcs/Reel
- Cumulative Tolerance : Cumulative Tolerance/10 pitches to be  $\pm 0.25$ mm
- Adhesion Strength of Cover Tape Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at the angle of  $10^\circ$  to the carrier tape.
- Package : P/N, Manufacturing data Code No. and Quantity to be indicated on a damp proof Package.



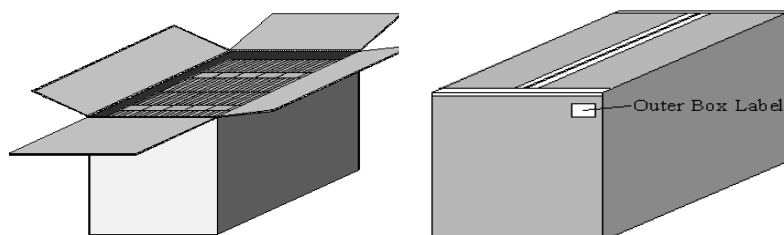
## Packaging Information

### Inner Box (内箱)



\* Capacity 5 or 10 reels per box (内箱容量: 5或10卷)

### Carton Box (外箱)



### Label (标签)

深圳市卢米斯科技有限公司  
Shenzhen LumiS Technology Co., Ltd

型号 Type: L32W-65831E1A-TSVL

光通量Φ: 122-130 [lm]

色区 Color Bin: 65L5

电压 Vf: 9-9.5 [V]

电流 IF: 100mA

数量 QTY: 5000PCS

Lot ID: 5H1632810-R1601A-6401013

Country of Origin: CN

Seal Date: 20170815

H/F ROHS Compliant

\* Capacity 30 or 60 reels per box (外箱容量: 30或60卷)

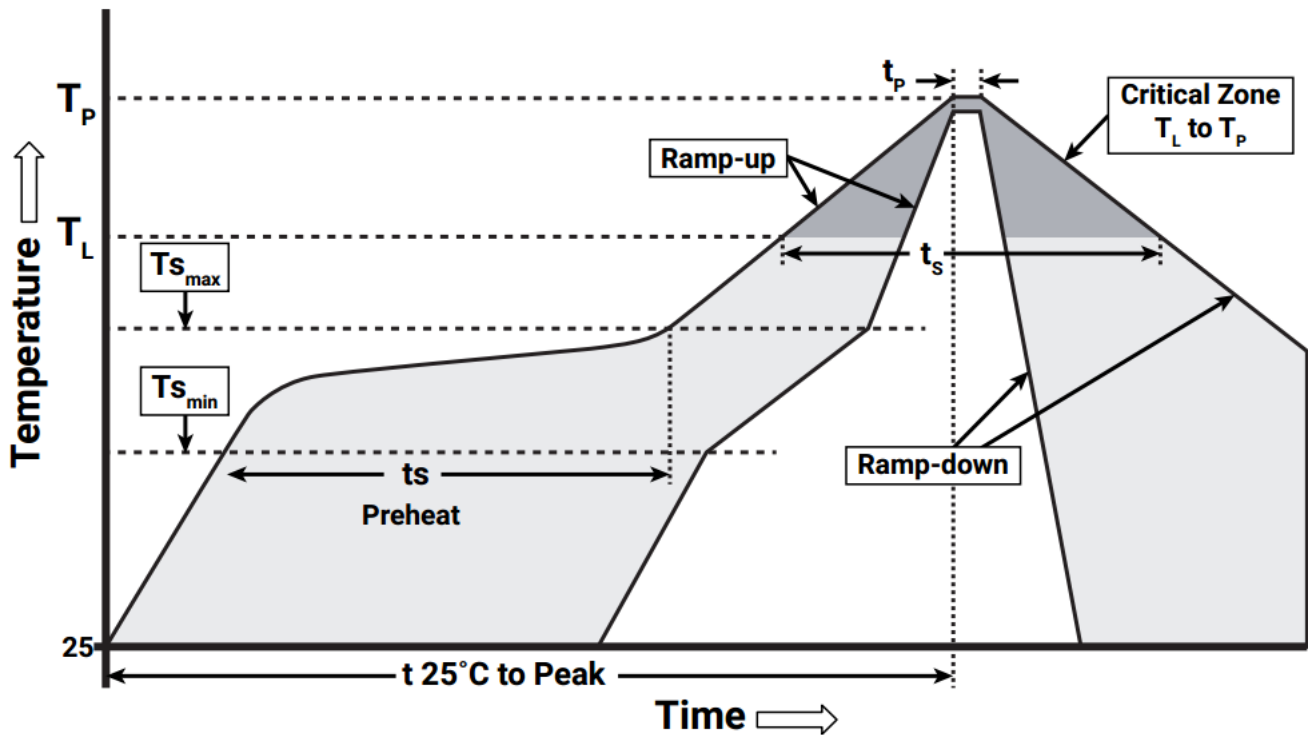
**Table 7. Part Numbering System :**

L	X1	X2	X3	X4	X5	X6	X7	X8	X9
L	35	W	-	50	F	1	1	C1	A - LJV

Item Number Code	Description	Item Number
X1	LED Type Code 产品代码	28: 2835; 20: 2016; 31: 3014; 32: 3020; 30: 3030; 35: 3535;
X2	Light Color 发光颜色	W: White Color; C: Colored; I: IR; U: UV
X3	CCT Code 色温代码	2725±145K: 27 3045±175K: 30 3985±275K: 40 5028±283K: 50 5665±355K: 57 5700-6500K: 61
X4	Color Rendering 显指	Ra70: 7; Ra80: 8; Ra95: 9; Full Spectrum: F
X5	No. of Serial Chip 晶片串联数量	1-Z.
X6	No. of Parallel Chip 晶片并联数量	1-Z.
X7	Lead Frame Code 支架代码	E1: EMC; E2: SMC; P1: PPA; P2: PCT; C1: Ceramic
X8	Viewing Angle 发光角度	A: 120 Deg. ; B: 30 Deg. ; C: 60 Deg. ; D: 90 Deg.
X9	Material Code 物料代码	LumiS Material Code

## Reflow Soldering

**Recommended Mid-Temperature Solder Paste**  
建议使用中温锡膏



Profile Feature	Lead-Free Solder
Average Ramp-Up Rate ( $T_{s_{max}}$ to $T_P$ )	1.2 °C/second
Preheat: Temperature Min ( $T_{s_{min}}$ )	120 °C
Preheat: Temperature Max ( $T_{s_{max}}$ )	170 °C
Preheat: Time ( $t_{s_{min}}$ to $t_{s_{max}}$ )	65-150 seconds
Time Maintained Above: Temperature ( $T_L$ )	217 °C
Time Maintained Above: Time ( $t_L$ )	45-90 seconds
Peak/Classification Temperature ( $T_P$ )	235 - 245 °C
Time Within 5 °C of Actual Peak Temperature ( $t_P$ )	20-40 seconds
Ramp-Down Rate	1 - 6 °C/second
Time 25 °C to Peak Temperature	4 minutes max.

## Precaution

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### Caution

1. Reflow soldering is recommended not to be done more than two times. In the case of more than 24 hours passed soldering after first, LEDs will be damaged.
2. Repairs should not be done after the LEDs have been soldered. When repair is unavoidable, suitable tools must be used.
3. Die slug is to be soldered.
4. When soldering, do not put stress on the LEDs during heating.
5. After soldering, do not warp the circuit board.

### Notes on LumiS EMC Series soldering:

1. Recommend to use reflow machine.
2. Recommend to use heating plate soldering.
3. Manual soldering is not recommended.

### Notes on reflow process:

1. To confirm whether the actual temperature curve in the reflow soldering conditions comply with recommended conditions. LEDs are guaranteed for one time reflow.
2. During reflow process do not apply force on LED active area.
3. After reflow process, PCB board should be cooled down before packing or storage.

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## Published by

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### Published By:

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#### Company Information

LumiS Technology Co., Ltd is located in Shen Zhen, China, which is a professional manufacturer of LED products that integrates research, production and sales. LumiS is a team focusing on LEDs, LED Modules and LED luminaries. To serve client better, we also provide other led lamp's accessories. Our experienced R&D team and sales team are young but professional. All of us have been serving customers over 4 years. We are aiming to provide full service on led luminaries solution from LEDs, driver to final production. Our engineers can offer the best solution when you design luminaries from the beginning. To be specific, when you design one luminary, LumiS can provide the LEDs with high quality and best price based on our professional knowledge. "Save Your Time, Improve Your Products".

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