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DATA SHEET

PART NO.: L-T670WDT-NW-U1

REV: A / 0

CUSTOMER'S APPROVAL : _____

DCC : _____

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SURFACE MOUNT DEVICE LED

PartNo. : L-T670WDT-NW-U1

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● **Features**

- P-LCC-2 package.
- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Pb-free.
- The product itself will remain within RoHS compliant version.

● **Descriptions**

- Due to the package design, GT3528 has wide viewing angle, low power consumption and white LEDs are devices which are materialized by combining Blue LEDs and special phosphors. This feature makes the LED ideal for light guide application.

● **Applications**

- General lighting
- Decorative and Entertainment Lighting.
- Indicators.
- Illuminations.
- Switch lights.

● **Device Selection Guide**

Chip	Emitted Color	Resin Color
Material		
InGaN	White	Yellow

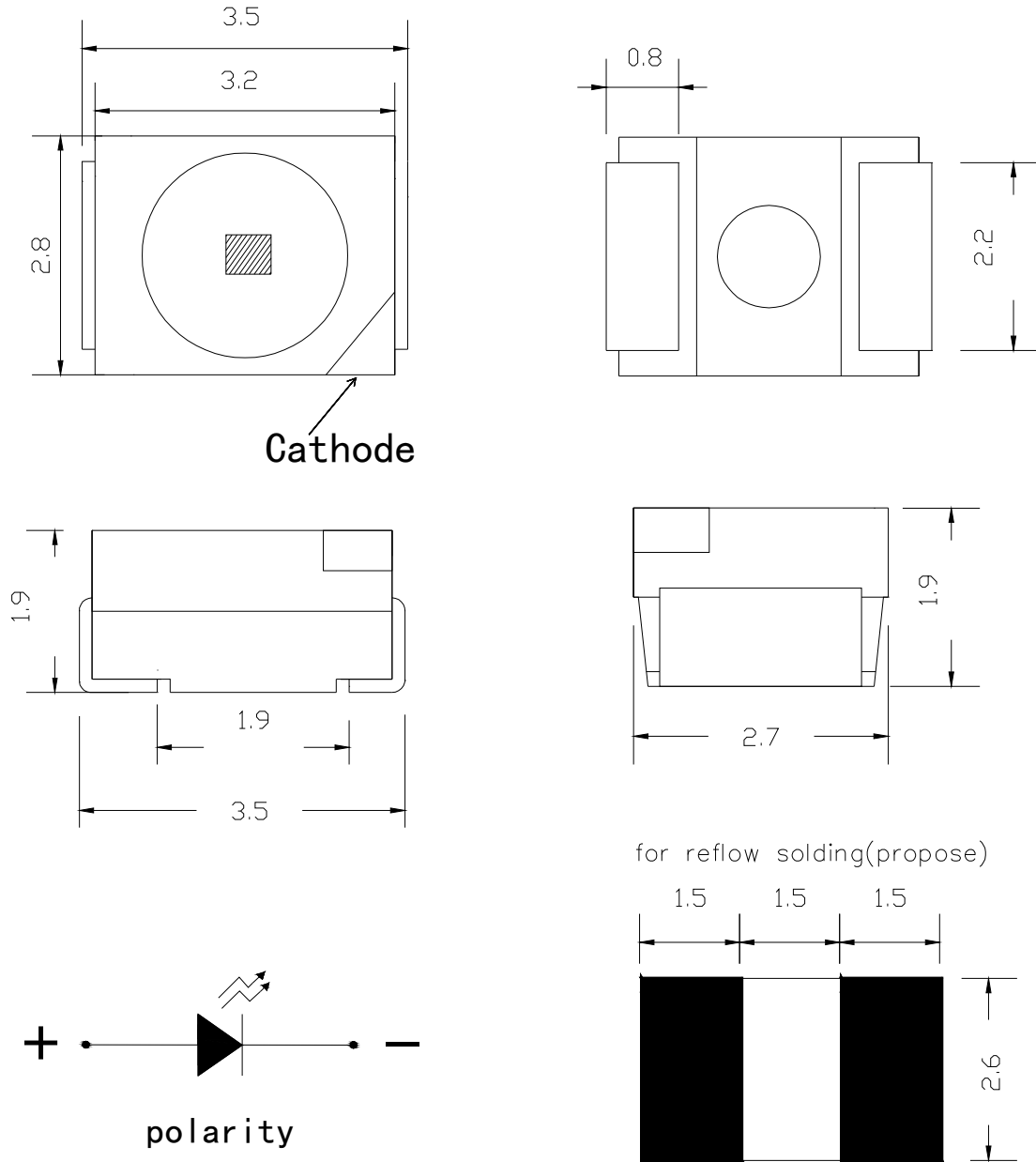


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● Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.254\text{mm}$ (0.01") unless otherwise specified.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change with notice.



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● Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	20	mA
Peak Forward Current*	I_{FP}	30	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	80	mW
Operation Temperature	T_{opr}	-40 ~ + 85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec	

*pulse width $\leq 0.1\text{msec}$ duty $\leq 1/10$

Typical Electrical & Optical Characteristics (Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$	2.8	---	3.6	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	10	uA
Color Temperature	TC	$I_F = 20\text{mA}$	6000	---	7000	k
Luminous Flux	Φ_V	$I_F = 20\text{mA}$	6	---	8	lm
Color Rendition Index	Ra	$I_F = 60\text{mA}$	70	---	---	
50% Power Angle	2 ½	$I_F = 20\text{mA}$	---	120	---	deg

1. Tolerance of measurement of luminous intensity is $\pm 15\%$.

2. Tolerance of measurement of color temperature is $\pm 100\text{K}$.

3. Tolerance of measurement of V_f is $\pm 0.05\text{V}$.

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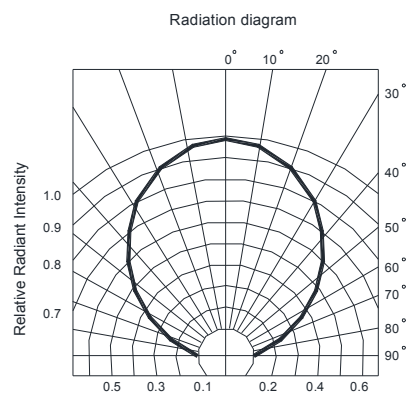
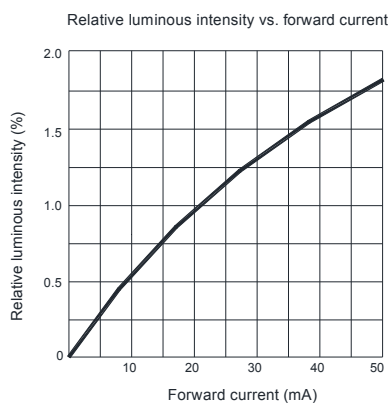
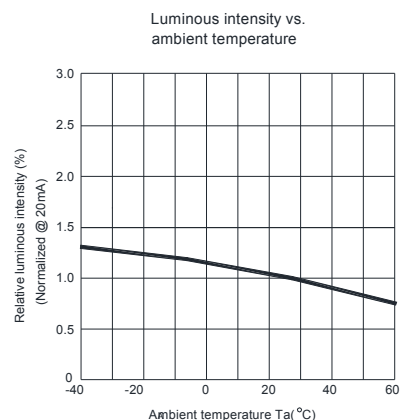
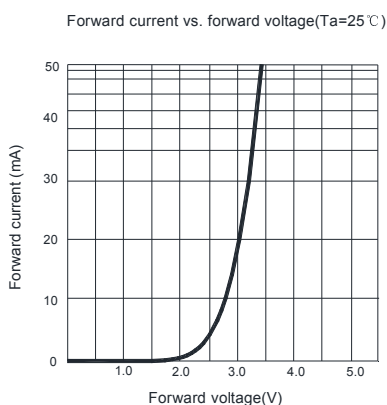
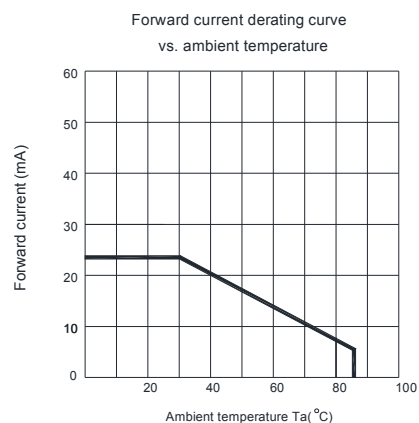
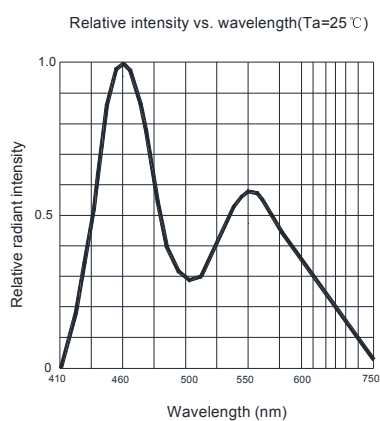
SURFACE MOUNT DEVICE LED

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● Electrical and optical characteristics(Ta=25°C)

Typical electro-optical characteristics curves



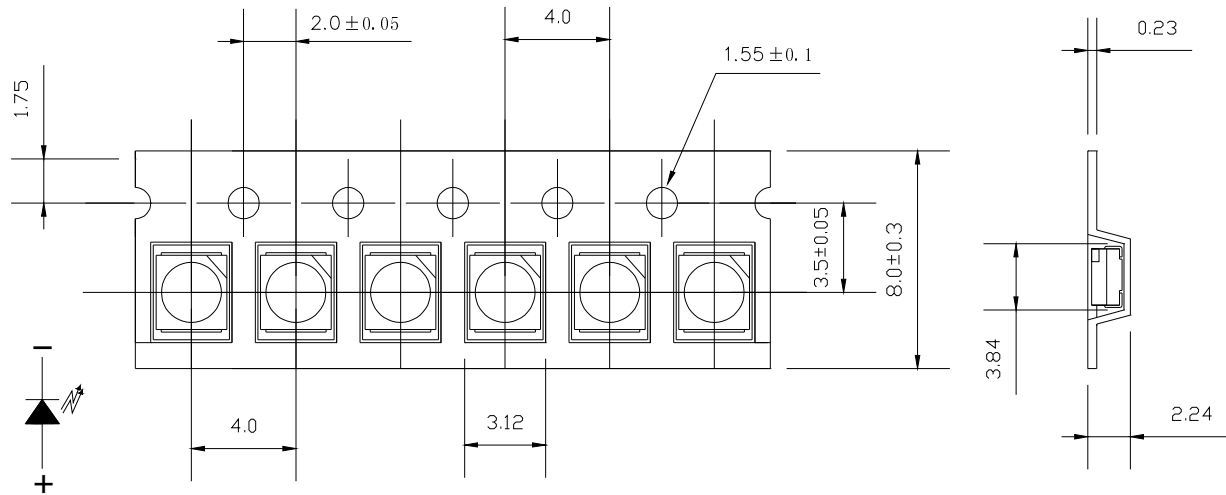


SURFACE MOUNT DEVICE LED

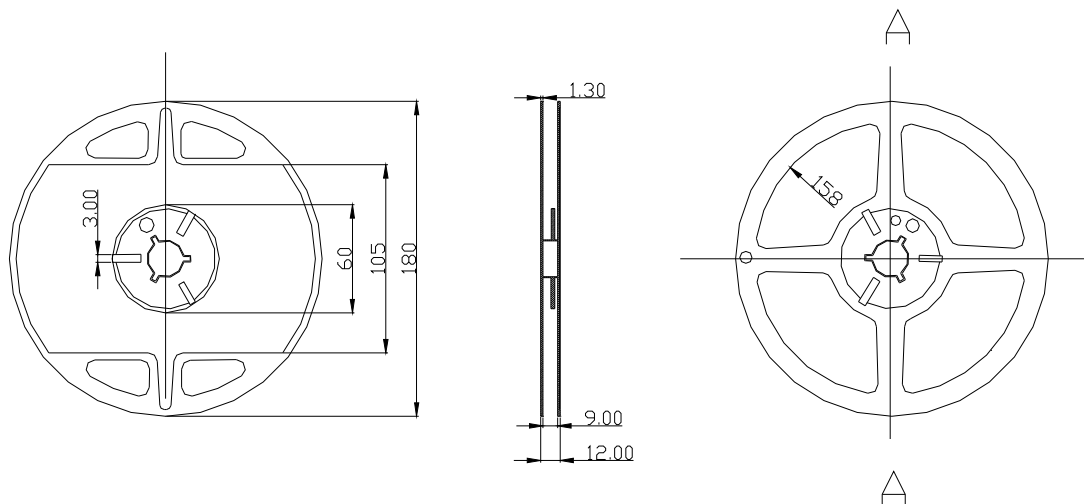
Part No. : L-T670WDT-NW-U1

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● Packing



Note: Tolerance unless mentioned is ±0.1mm; Unit = mm



Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel.

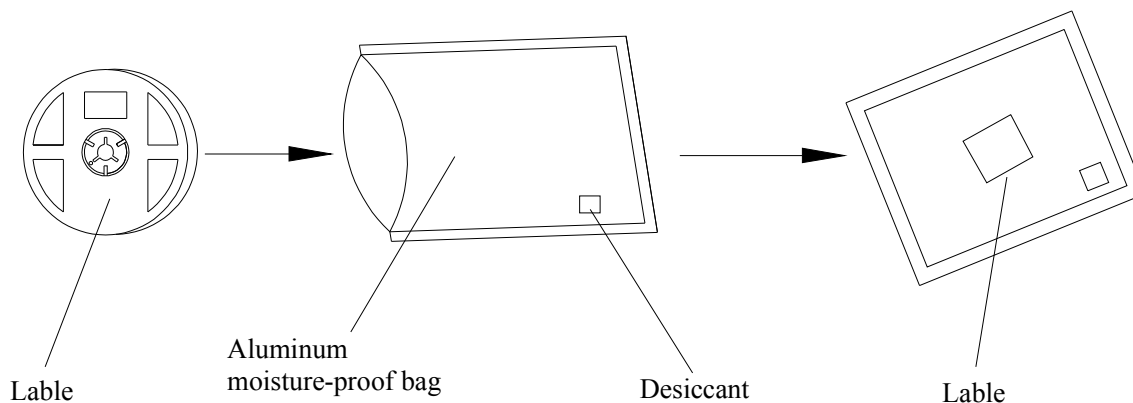


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● Moisture Resistant Packaging



Label Explanation

	光鼎电子有限公司
CUS. PART NO. :	
CUSTOMER:	
PART NO: XXXXXXXXXXXX	IV:
	VF:
	CIE:
LOT NO: XXXXXXXX	
	QC:
Qty: XXXXPCS	
Date: XXXXXXXX	ROHS



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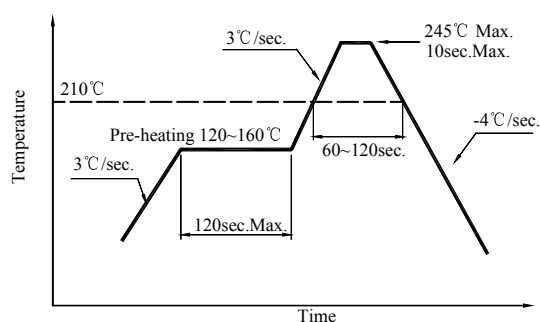
●Precautions for Usep

Reflow Soldering	
Pre-heat	120~160℃
Pro-heat time	120 seconds Max.
Peak temperature	245℃ Max.
Soldering time	10 seconds Max.
Condition	Refer to Temperature-profile

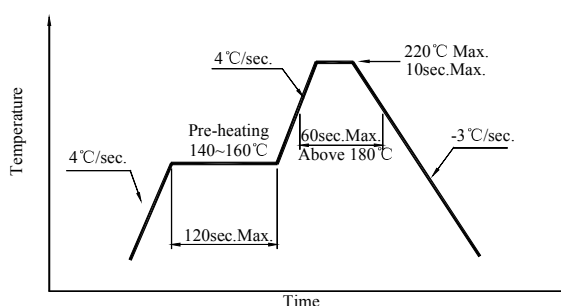
After reflow soldering rapid cooling should be avoided

Use the following conditions shown in the figure.

<Pb-free solder>



<Lead solder>



- 1.Reflow soldering should not be done more than two times
- 2.When soldering,do not put stress on the LEDs during heating



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Reliability Test Items and Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

No.	Items	Test Condition	Test Hours/ Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C Min. 5sec.	6 Min.	22 PCS	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 Cycles	22PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300PCS	22PCS	0/1
4	High Temperature Storage	Temp. : 100°C	1000Hrs	22PCS	0/1
5	Low Temperature Storage	Temp. : -40°C	1000Hrs	22PCS	0/1
6	Dc Life	IF = 20 mA	1000Hrs	22PCS	0/1
7	High Temperature / High Humidity	85°C/ 85%RH	1000Hrs	22PCS	0/1
8	Drop Test	75cm	3 Times	22PCS	0/1



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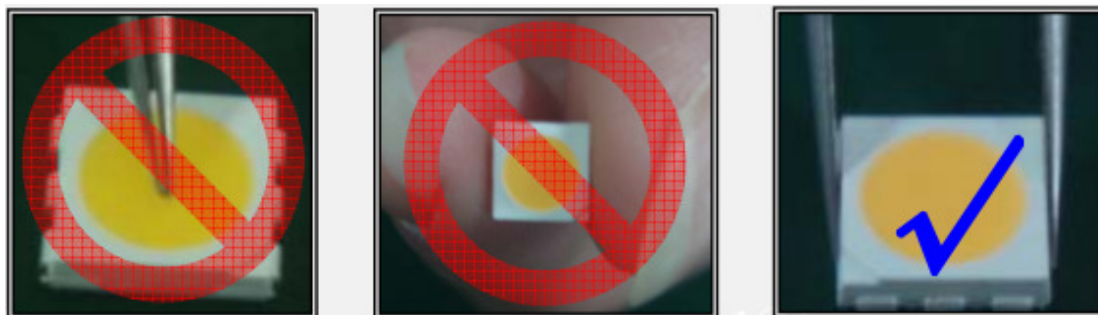
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Handling Precautions :

Compare to epoxy encapsulation that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more prone to damage by external mechanical force. As a result, Special handling precautions must be observed during assembling using silicone encapsulated LED product, Failure to comply might leads to damage and premature failure of the LED. During normal use, recommended bulb pin temperature does not exceed 60 degrees.

◆ 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.



◆ Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



◆ Not suitable to operate in acidic environment, PH<7.

◆ LED operating environment and sulfur element composition cannot be over 25 PPM in the LED mating usage material.

When we need to use external glue for LEDs application products, please make sure that the external glue matches the LEDs packaging glue. Additionally, as most of LEDs packaging glue is silica gel, and it has strong Oxygen permeability as well as strong moisture permeability; in order to prevent external material from getting into the inside of LEDs, which may cause the malfunction of LEDs, the single content of Bromine

element is required to be less than 225 PPM, the single content of Chlorine element is required to be less than 225 PPM, the total content of Bromine element and Chlorine element in the external glue of the application products is required to be less than 375 PPM.

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◆ The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the picking up nozzle, the pressure on the silicone resin should be proper.

◆ Static electricity or surge can lead to changes in product characteristics, such as the low forward voltage, more serious Dim or do not light, completely destroyed.

The grounding of all equipment and machinery must be correct and must take other measures against static electricity and surge, such as anti-static bracelet, antistatic mats, anti-static work clothes, work boots, gloves, anti-static capacitors, all measures are effective against static electricity and surge

◆ After opening the package, the product should be stored at 30°C or less and humidity less than 10% RH, and be soldered within 24 H. It is recommended that the product be operated at the workshop condition of 30°C or less and humidity less than 60% RH. If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.