

DATA SHEET

PART NO.:LT2835WDT-WW-BKS-U1

REV: A/0

CUSTOMER'S APPROVAL: _____

DCC: _____

2.8*3.5*0.7 mm PLCC LED

LT2835WDT-WW-BKS-U1

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• Features

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



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES
注意：操作时应注意静电
敏感释放设备装置

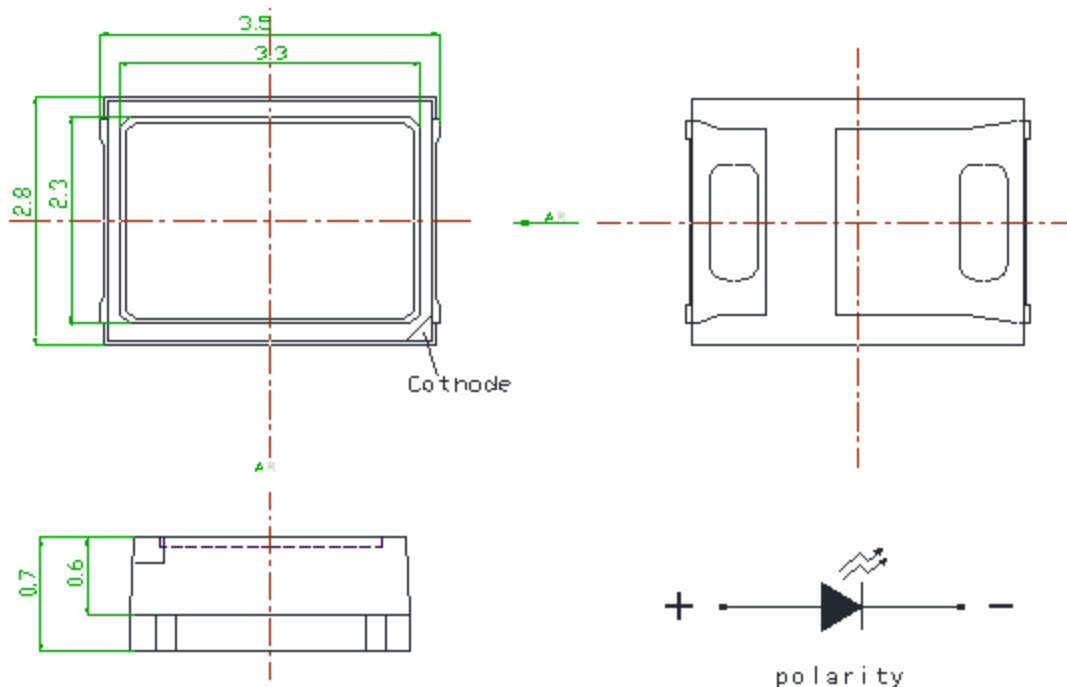
• Descriptions

- Due to the package design, 2835 has wide viewing angle, low power consumption and white LEDs are devices which are materialized by combing Blue LEDs and special phosphors. This feature makes the LED ideal for light guide application.

• Applications

- TV back lighting
- Decorative and Entertainment Lighting.
- Illuminations.

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 150mA	2.8	---	3.6	V
Reverse Current	IR	VR =5V	---	---	10	uA
Dominant Wavelength	Wld	IF =150mA	2700	---	2900	nm
Luminous intensity	IV	IF = 150mA	50	---	65	lm
50% Power Angle	2θ½	IF =150mA	---	120	---	deg

Notes: 1. Tolerance of measurement of luminous intensity is ±15%.
 2. Tolerance of measurement of dominant wavelength is ±1nm.
 3. Tolerance of measurement of Vf is ±0.05 V.

• Absolute Maximum Ratings At Ta=25°C

Items	Symbol	Absolute maximum	Unit
Forward Current	IF	150	mA
Peak Forward Current*	IFP	200	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	540	mW
Operating Temperature Range	Topr	-40°C ~ + 85°C	
Storage Temperature Range	Tstg	-40°C ~ +100°C	
Lead Soldering Temperature	Tsol	Reflow soldering : 260°C For 5 Seconds Hand soldering: 350°C For 3 Seconds	

Notes: *pulse width ≤0.1msec duty ≤1/10

• Device Selection Guide

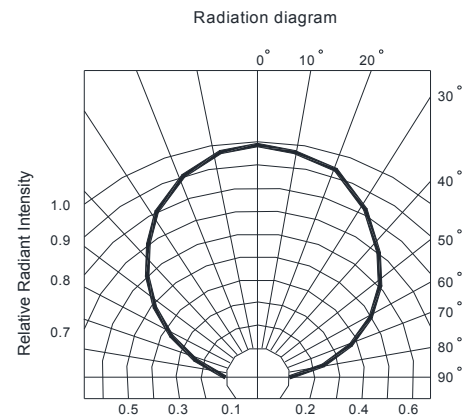
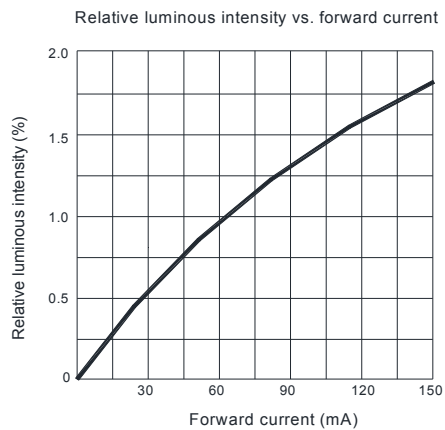
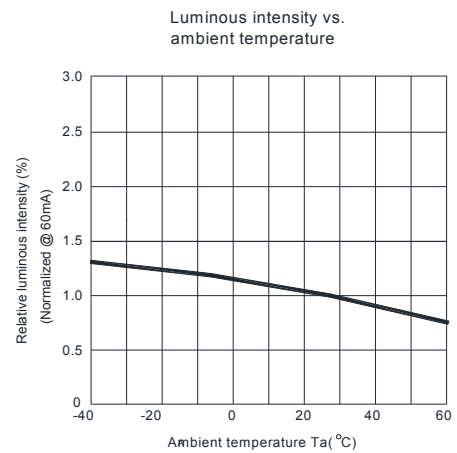
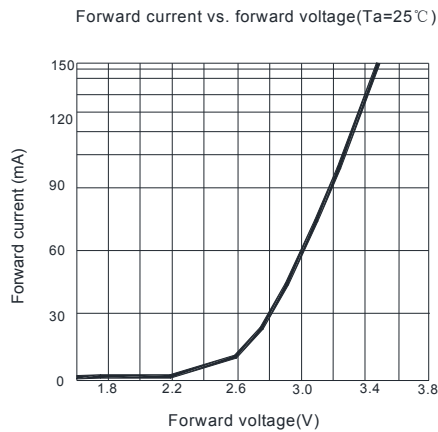
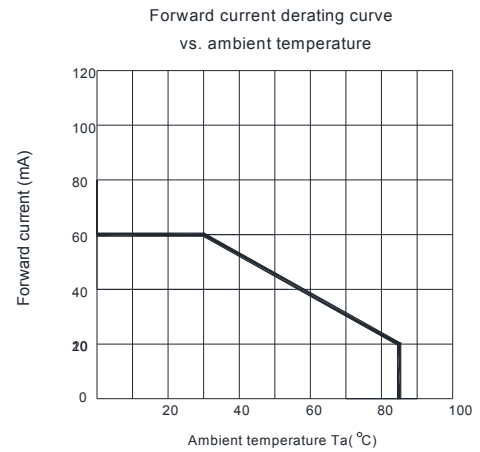
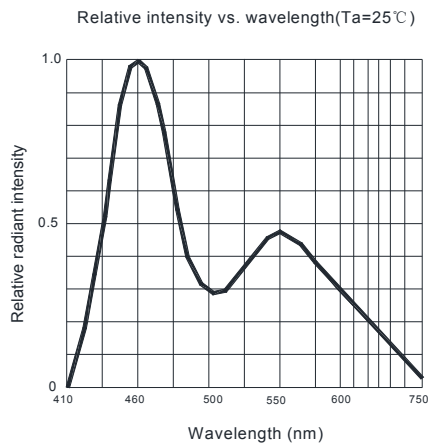
Chip	Emitted Color	Resin Color
Material		
InGaN	White	Yellow

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•Typical electro-optical characteristics curves



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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%.

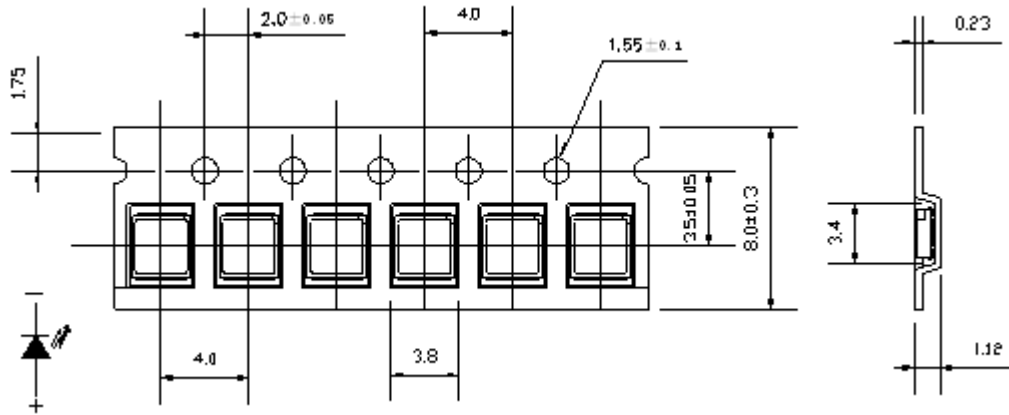
Items	Test Condition	Test Hours/Cycles	Quantity	Ac/Re
Reflow Soldering	Temp. : 260℃±5℃ Min. 5sec.	6Min	22 PCS	0/1
Temperature Cycle	H : +100℃ 15min. └ 5 min L : -40℃ 15min.	300 Cycles	22PCS	0/1
Thermal Shock	H : +100℃ 5min. └ 10 sec L : -10℃ 5min.	300Cycles	22PCS	0/1
High Temperature Storage	Temp. : 100℃	1000Hrs	22PCS	0/1
Low Temperature Storage	Temp. : -40℃	1000Hrs	22PCS	0/1
Dc Life	IF =5mA	1000Hrs	22PCS	0/1
High Temperature / High Humidity	85℃/ 85%RH	1000Hrs	22 CS	0/1
Drop Test	75cm	3 Times	22PCS	0/1

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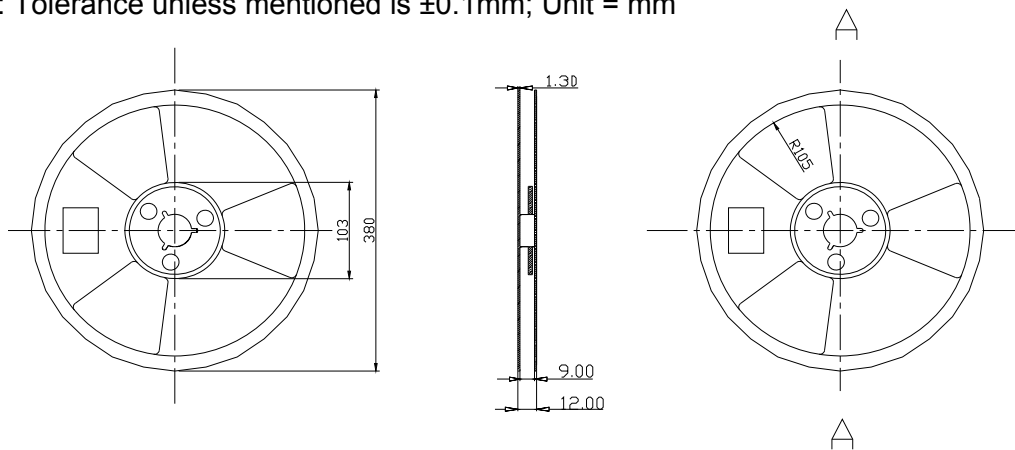
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● Packaging

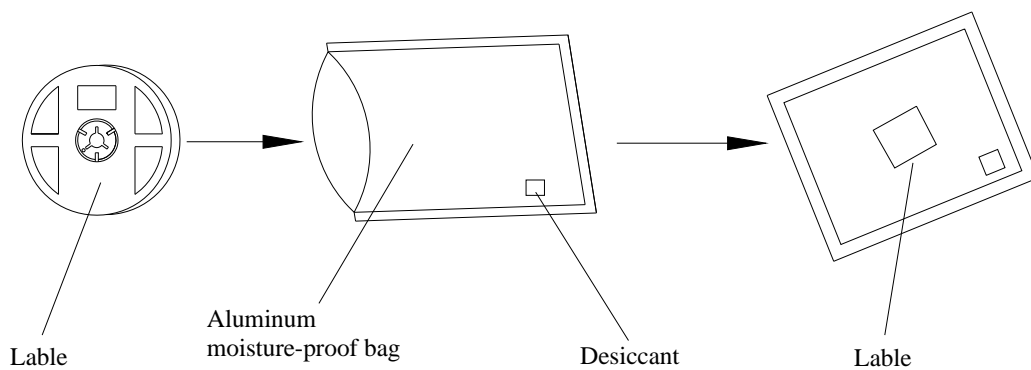


Note: Tolerance unless mentioned is $\pm 0.1\text{mm}$; Unit = mm



Carrier Tape Dimensions: Loaded Quantity 4000 pcs Per Reel.

● Moisture Resistant Packaging



●Precautions for Use

Requirements for application and reflow soldering

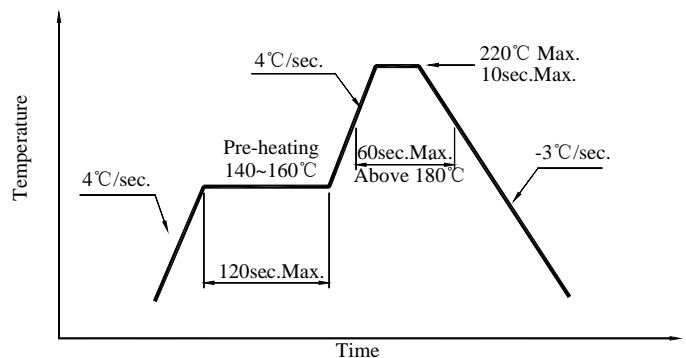
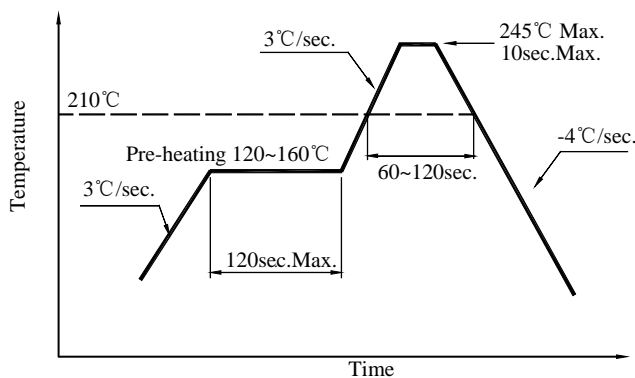
Reflow Soldering	
Pre-heat	120~160℃
Pro-heat time	120 seconds Max.
Peak temperature	245℃ Max.
Soldering time	10 seconds Max.
Condition	Refer to Temperature-profile

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

Handling Precautions

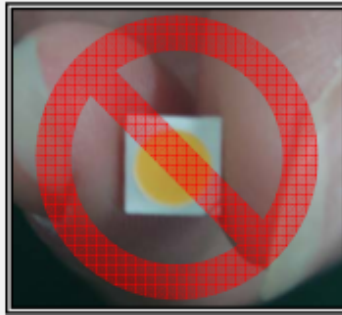
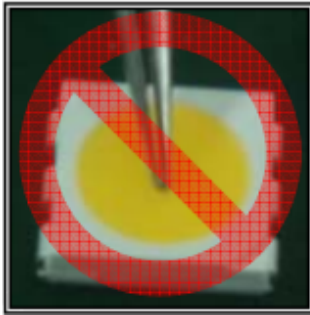
Compare to epoxy encapsulation that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more prone to damage by external mechanical force. As a result, Special handling precautions must be observed during assembling using silicone 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.

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- ◆ 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, $\text{PH} < 7$.
- ◆ 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.
- ◆ 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

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- ◆ 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.