

R2835WW6-Q20-Q20



3.5x2.8mm, White & Warm WhiteLED

Surface Mount PLCC-4 LED Indicator

Technical Data Sheet

Features

- PLCC-4 package.
- White package.
- Wide viewing angle.
- Suitable for automatic placement equipment.
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes.
- Available on tape and reel (8mm Tape).
- The product itself will remain within RoHS compliant Version.

Descriptions

- The R2835 series is available in soft red, orange, yellow, green, blue and white. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector.

Applications

- Decorative and Entertainment Lighting
- Agriculture Lighting
- General use

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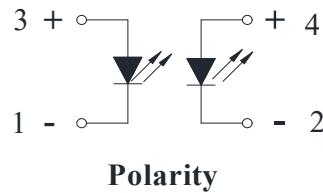
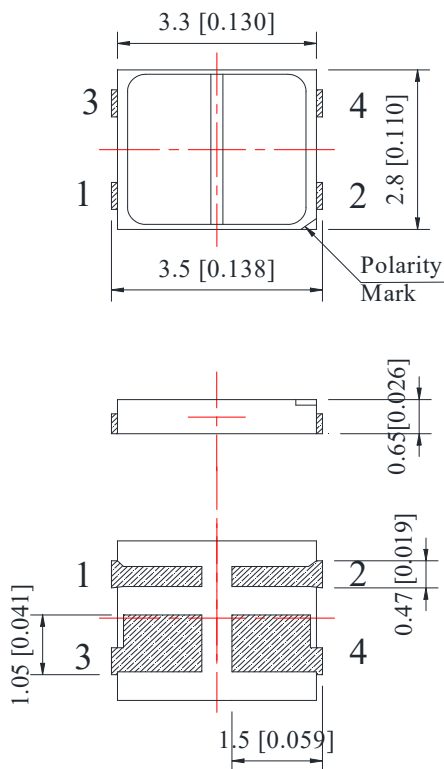
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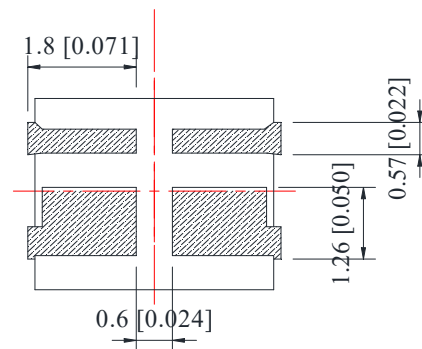
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Part No.	Emitting Color	Lens Color
R2835WW6-Q20-Q20	White	Water Clear
	Warm White	

Package Dimension



Recommended Soldering Pad Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (.010") unless otherwise noted.

Spec No.: R2835

Issue No.: G-Rev-4

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Absolute Maximum Ratings at Ta=25℃

Parameters	Symbol	Emitting Color	Max.	Unit
Power Dissipation	PD	White	0.2	W
		Warm White	0.2	
Peak Forward Current ^(a)	IFP	White	100	mA
		Warm White	100	
Continuous Forward Current ^(b)	IF	White	60	mA
		Warm White	60	
Reverse Voltage	VR	5		V
Electrostatic Discharge (HBM)	ESD	White	1000	V
		Warm White	1000	V
Operating Temperature Range	Topr	-40℃ to +85℃		
Storage Temperature Range	Tstg	-40℃ to +85℃		
Soldering Temperature	Tsld	260℃ for 5 Seconds		

Notes:

- Duty Factor = 10%, Frequency = 1 kHz
- Derate linearly as shown in derating curve.

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Electrical Optical Characteristics at Ta=25℃

Parameters	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Flux ^(a)	Φ_v	White	20	24	---	LM	IF=60mA
		Warm White	20	22	---		
Viewing Angle	2 θ 1/2	White	---	120	---	Deg	IF=60mA
		Warm White	---	120	---		
Chromaticity Coordinates ^(b)	X	White	---	0.31	---	nm	IF=60mA
		Warm White	---	0.44	---		
	Y	White	---	0.32	---	nm	IF=60mA
		Warm White	---	0.41	---		
Spectral Line Half-Width	$\Delta\lambda$	White	---	20	---	nm	IF=60mA
		Warm White	---	20	---		
Color Temperature	CCT	White	---	6500	---	k	IF=60mA
		Warm White	---	3000	---		
Forward Voltage ^(c)	VF	White	2.80	3.20	3.60	V	IF=60mA
		Warm White	2.80	3.20	3.60		
Color Rendering Index	CRI		70	---	---	Ra	IF=60mA
Reverse Current	IR	White	---	---	10	μ A	VR=5V
		Warm White			10		

Notes:

- Luminous Intensity (Flux) measurement tolerance: $\pm 10\%$.
- Color coordinates measurement tolerance: ± 0.015
- Forward voltage measurement tolerance: $\pm 0.1V$

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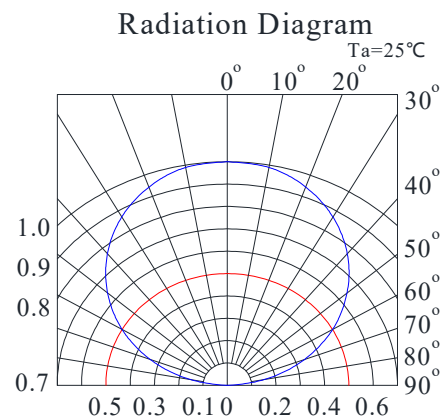
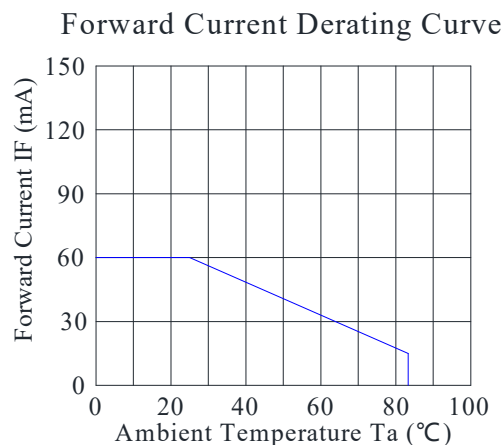
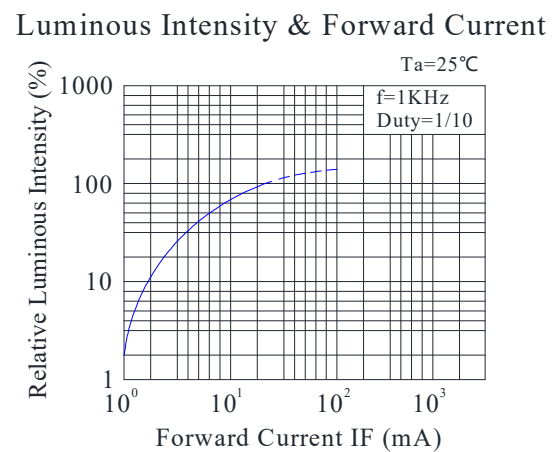
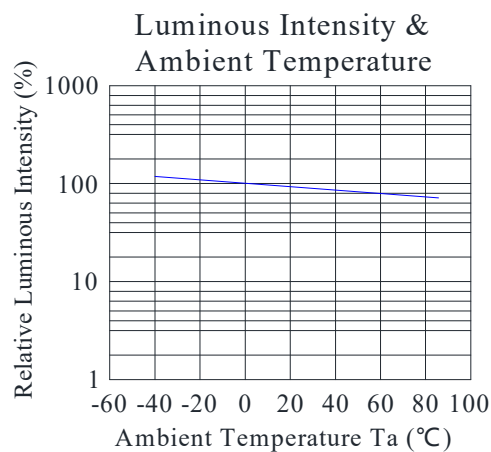
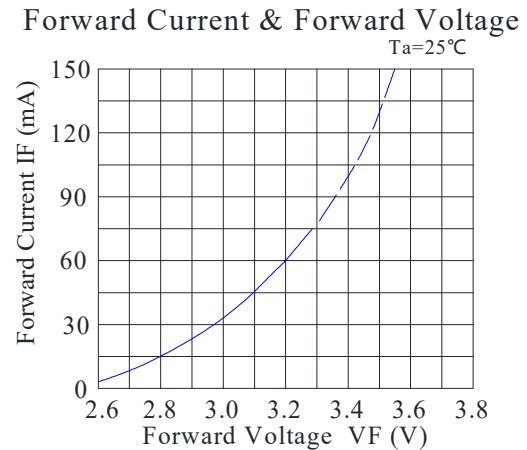
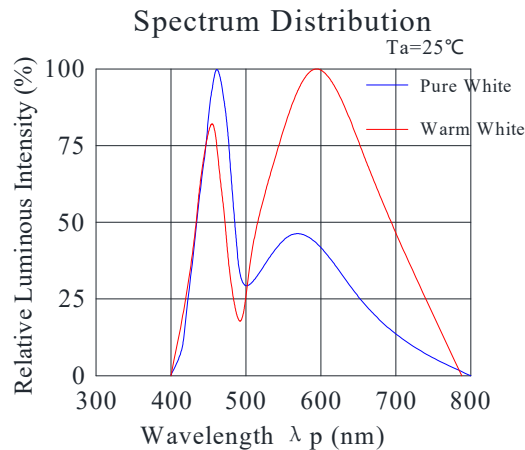
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Typical Electrical / Optical Characteristics Curves (25°C Ambient Temperature Unless Otherwise Noted)



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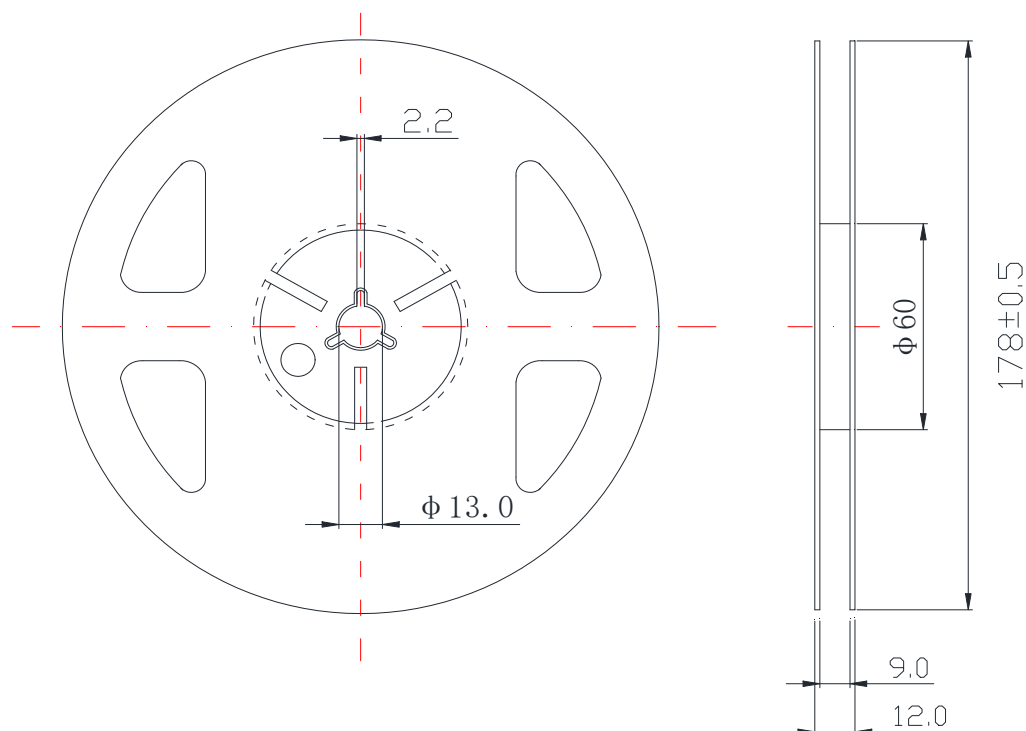
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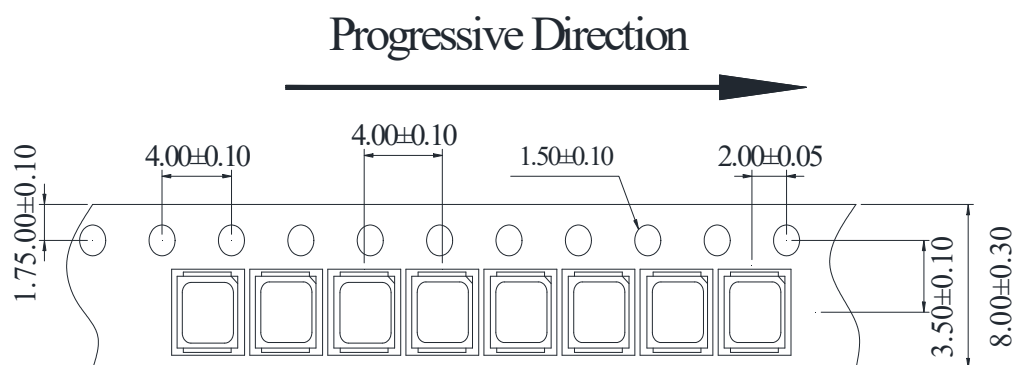
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Reel Dimensions



Carrier Tape Dimensions

Loaded quantity 4000 pcs per reel.



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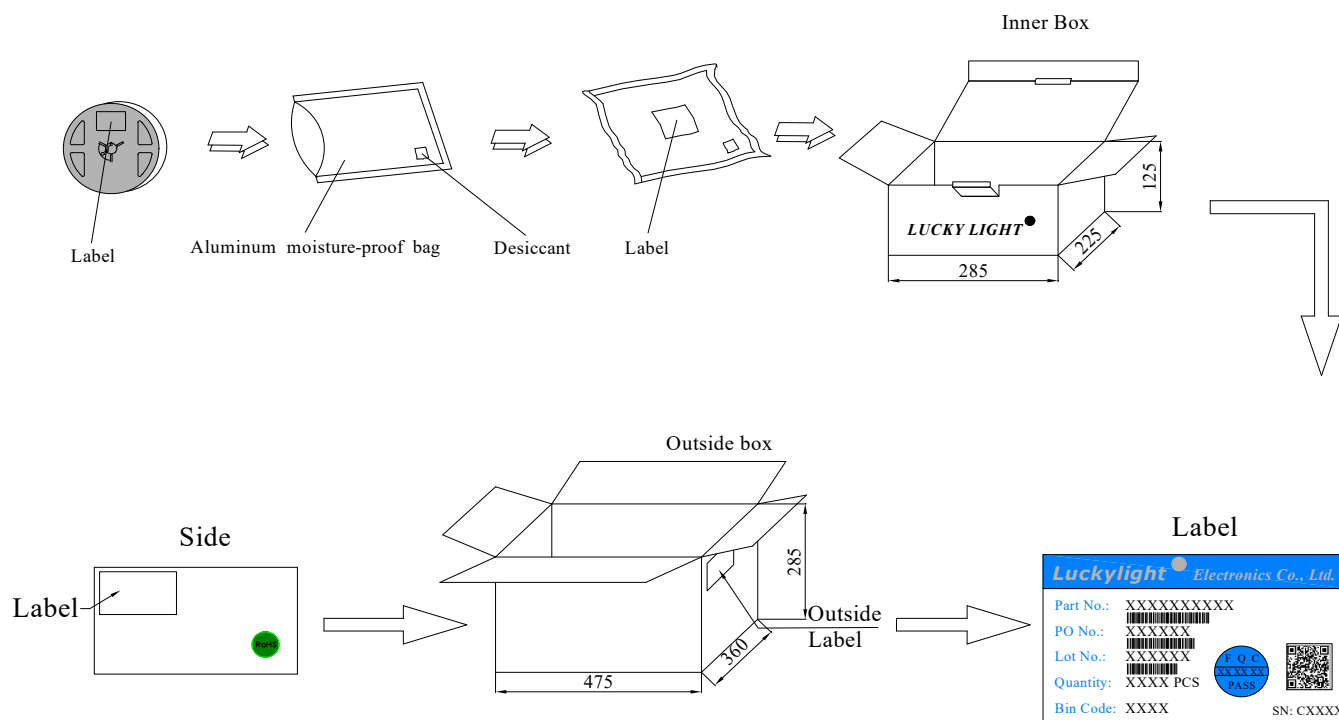
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Packing & Label Specifications:

Moisture Resistant Packaging:



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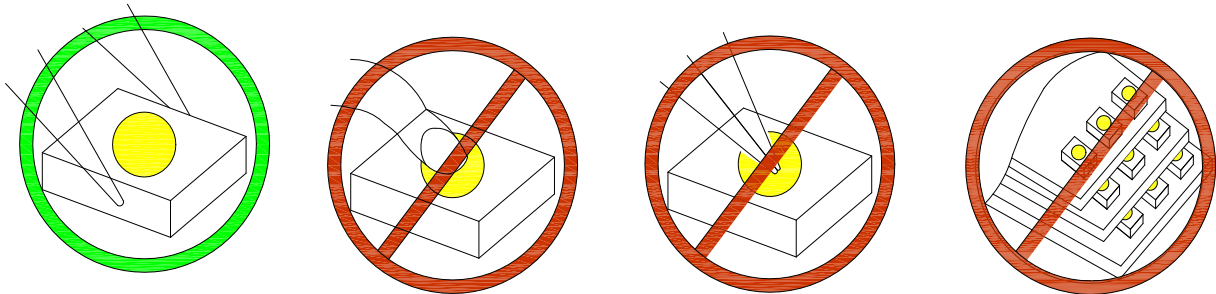
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CAUTIONS**1. Handling Precautions:**

- 1.1. Handle the component along the side surfaces by using forceps or appropriate tools.
- 1.2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.
- 1.3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

2. Storage

- 2.1. Do not open moisture proof bag before the products are ready to use.
- 2.2. Before opening the package, the LEDs should be kept at 30°C or less and 60%RH or less.
- 2.3. The LEDs should be used within a year.
- 2.4. After opening the package, the LEDs should be kept at 30°C or less and 60%RH or less.
- 2.5. The LEDs should be used within 24 hours after opening the package.
- 2.6. If the moisture adsorbent material has fabled away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment: 65±5°C for 24 hours.

3. Soldering Condition

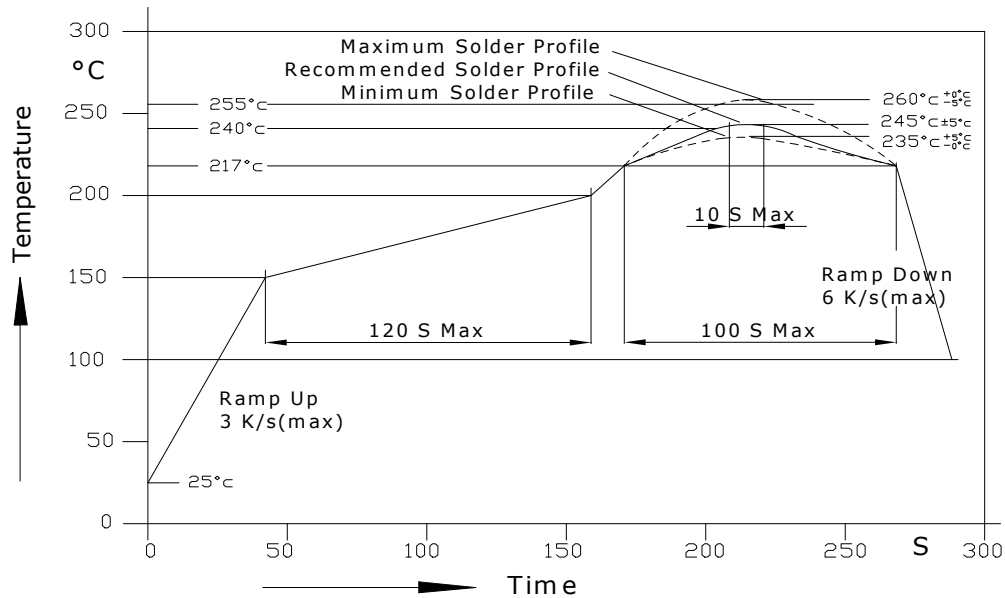
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3.1. Pb-free solder temperature profile



3.2. Reflow soldering should not be done more than two times.

3.3. When soldering, do not put stress on the LEDs during heating.

3.4. After soldering, do not warp the circuit board.

3.5. Recommended soldering conditions:

Reflow soldering		Soldering iron	
Pre-heat	150~200°C	Temperature	300°C Max.
Pre-heat time	120 sec. Max.	Soldering time	3 sec. Max.
Peak temperature	260°C Max.		(one time only)
Soldering time	10 sec. Max.(Max. two times)		

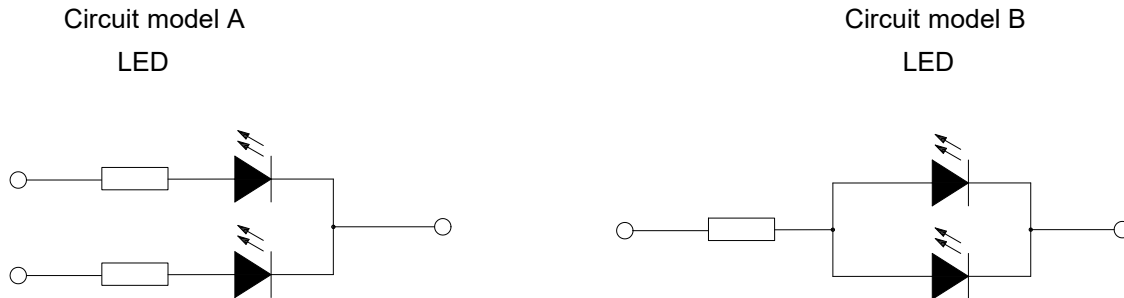
3.6. Because different board designs use different number and types of devices, solder pastes, reflow ovens, and circuit boards, no single temperature profile works for all possible combinations.

However, you can successfully mount your packages to the PCB by following the proper guidelines and PCB-specific characterization.

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4. Drive Method

4.1. An LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit A below.



- a. Recommended circuit.
- b. The brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

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