DATA SHEET

PART NO. : LC151WD-CW2XGU1

REV : A / 0

CUSTOMER'S APPROVAL : _____ DCC : _____

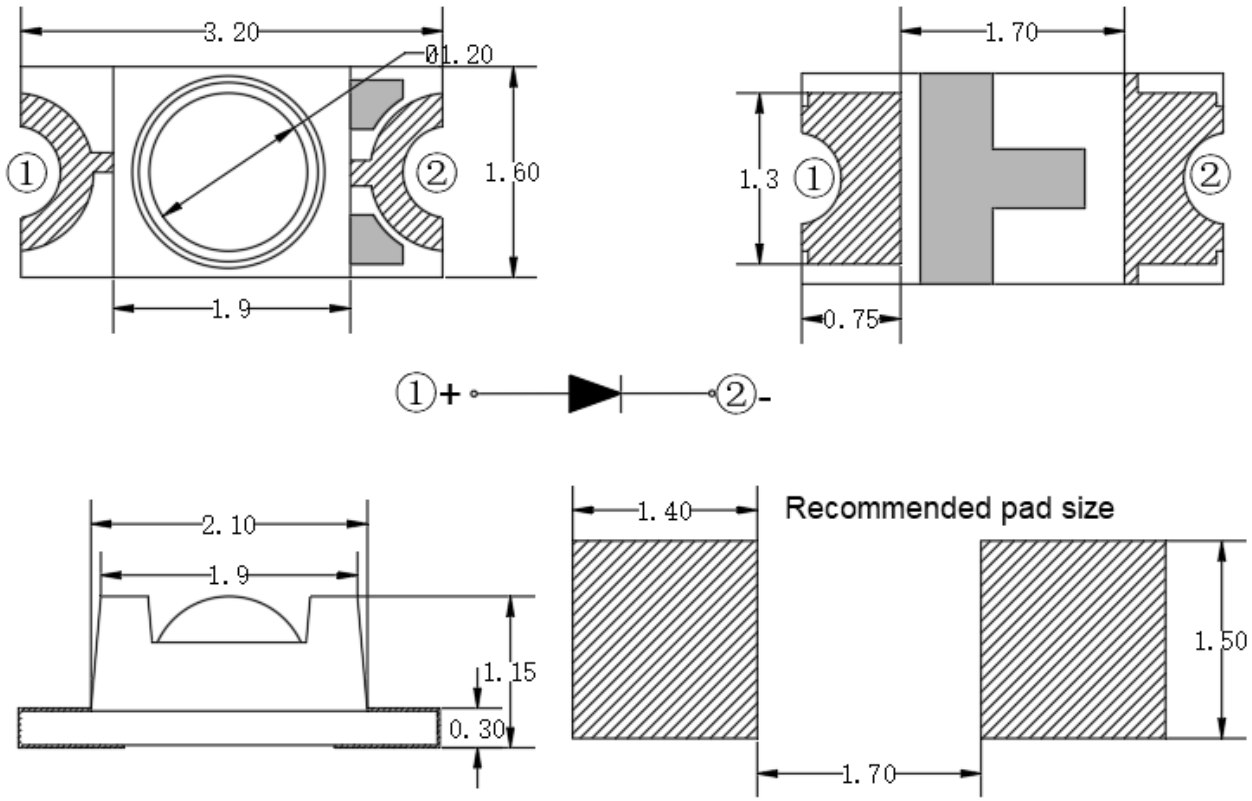
3.2 x 1.6x1.15mm SMD LED

LC151WD-CW2XGU1 REV:A / 0

FEATURES

Dimension (L / W / H): 3.2 x 1.6x1.15mm
Color: White light
Colloid: Yellow flat colloid
EIA standard packaging
Environmental protection products meet ROHS requirements
Suitable for automatic placement machine
Suitable for infrared reflow soldering process

PACKAGE DIMENSIONS



NOTES :

1.All dimensions are in millimeters
2.Tolerances are±0.10mm unless otherwise noted
3. The Specifications in the datasheet are subject to change without notice.

ABSOLUTE MAXIMUM RATING : (Ta = 25℃)

Symbol	Parameter	Rating	Unit
PD	Power consumption	100	mW
If	Forward Current	20	mA
Ifp	Maximum pulse current (1/10 duty cycle 0.1ms)	90	mA
VR	Reverse Voltage	5	V
ESD	Electrostatic discharge(HBM)	1500	V
Topr	Operating Temperature Range	-40℃ ~ + 85℃	℃
Tstg	Storage Temperature Range	-40℃ ~ + 85℃	℃
Tsol	Reflow soldering : 255°C ,10s, Hand soldering : 300°C ,3s		

Note: Pulse width ≤0.1ms,Duty≤1/10

ELECTRO-OPTICAL CHARACTERISTICS : (Ta = 25℃)

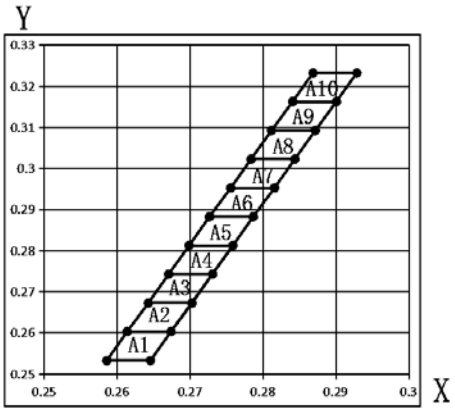
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	280	---	550	mcd	IF=5mA
Forward Voltage	VF	2.6	---	3.2	V	IF=5mA
Chromaticity	X	0.2586	---	0.2929	/	IF=5mA
	Y	0.2532	---	0.3232		
Reverse Current	IR	-	-	10	μA	VR=5V
Viewing Angle	2θ1/2	-	120	-	deg	IF=5mA

Bin Code List

Parameter	Symbol	BIN	Min.	Max.	Unit	Test Condition
Luminous Intensity	IV	M	280	350	mcd	IF =5mA
		N	350	440		
		O	440	550		
Forward Voltage	VF	2D	2.6	2.8	V	IF =5mA
		2E	2.8	3.0		
		3A	3.0	3.2		

Block coordinates（@**Ta=25**℃）

CA	X1	Y1	X2	Y2	X3	Y3	X4	Y4
A1	0.2586	0.2532	0.2614	0.2602	0.2674	0.2602	0.2646	0.2532
A2	0.2614	0.2602	0.2643	0.2672	0.2703	0.2672	0.2674	0.2602
A3	0.2643	0.2672	0.2671	0.2742	0.2731	0.2742	0.2703	0.2672
A4	0.2671	0.2742	0.2699	0.2812	0.2759	0.2812	0.2731	0.2742
A5	0.2699	0.2812	0.2727	0.2882	0.2787	0.2882	0.2759	0.2812
A6	0.2727	0.2882	0.2756	0.2952	0.2816	0.2952	0.2787	0.2882
A7	0.2756	0.2952	0.2784	0.3022	0.2844	0.3022	0.2816	0.2952
A8	0.2784	0.3022	0.2812	0.3092	0.2872	0.3092	0.2844	0.3022
A9	0.2812	0.3092	0.2841	0.3162	0.2901	0.3162	0.2872	0.3092
A10	0.2841	0.3162	0.2869	0.3232	0.2929	0.3232	0.2901	0.3162

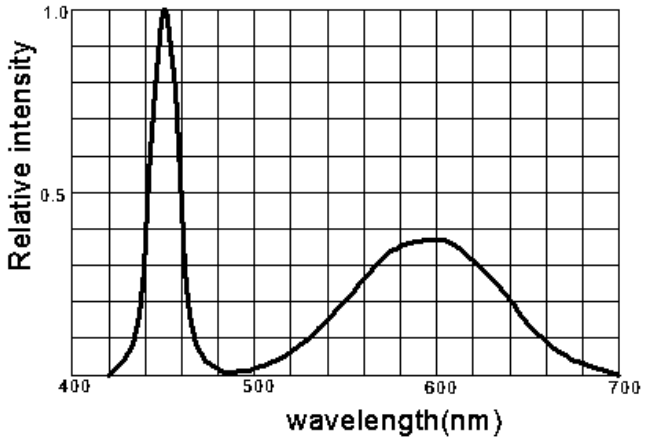


Tolerance:

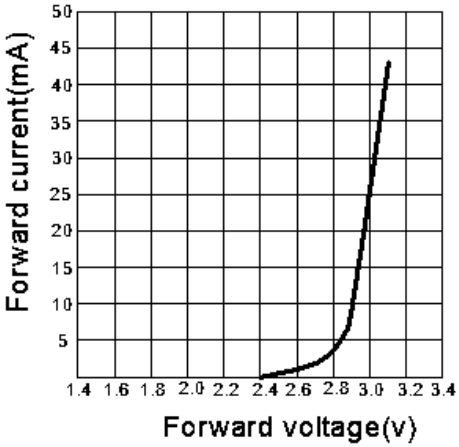
1. Tolerance of measurement of luminous intensity is ±20%.
2. Tolerance of measurement of Color temperature is ±500K.
3. Tolerance of measurement of Chromatic coordinates is ±0.01 .
4. Tolerance of measurement of Vf is ±0.1 V.

Typical Electro-Optical Characteristics Curves

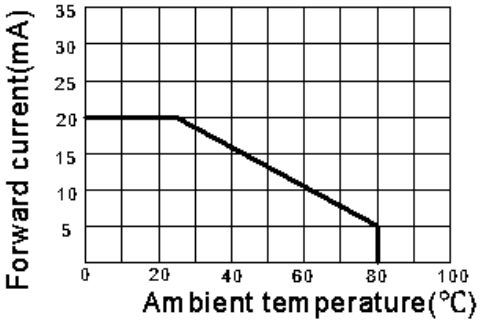
Relative intensity VS wavelength



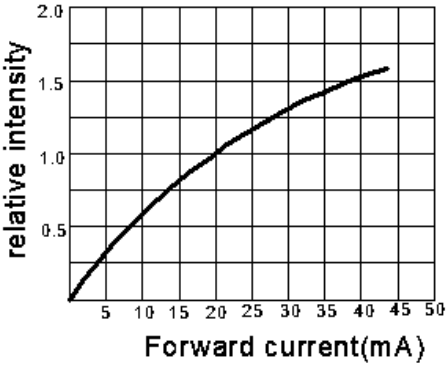
Voltage current relationship



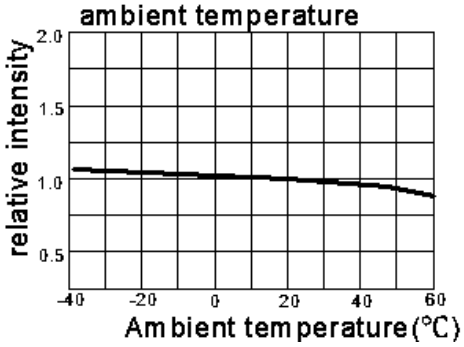
Current and a`mbient temperature



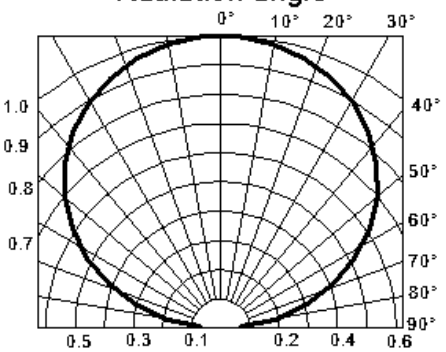
Relative light intensity vs current



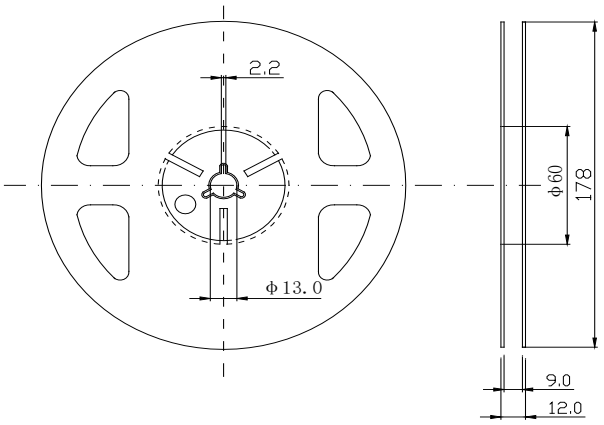
Relative light intensity vs ambient temperature



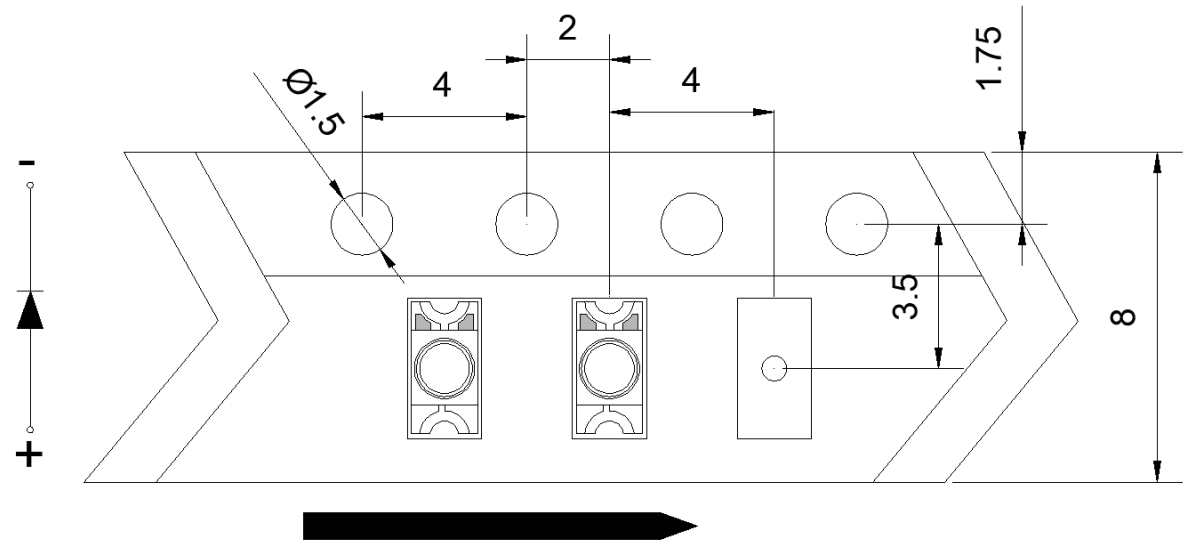
Radiation angle



Reel Dimensions



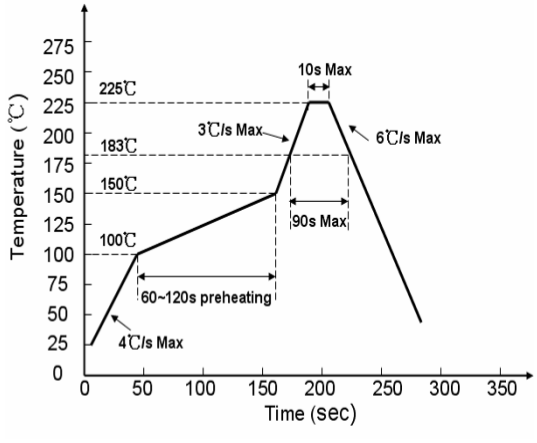
Package Dimensions Of Tape And Reel



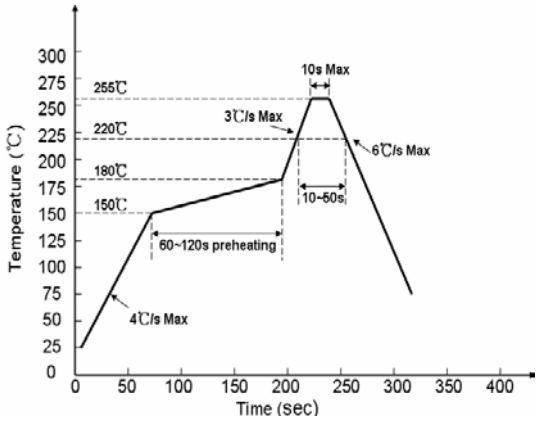
Notes:

1. Taping Quantity : 3000pcs
2. The tolerances unless mentioned is±0.15mm.

Recommended reflow temperature curve



PB



PB FREE

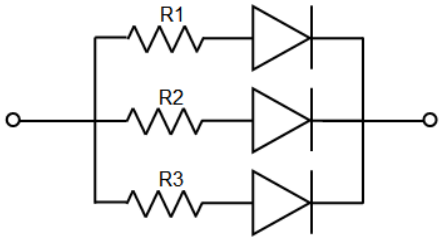
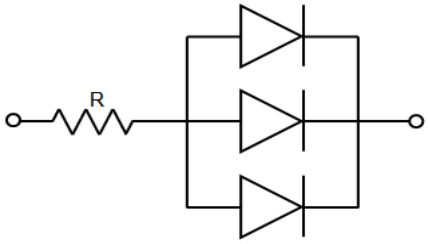
Precautions for use

◆use

●LED is a current driven component, the slight change of voltage will produce large current fluctuation, which will lead to component damage.

The customer should use resistance series as current limiting protection.

●In order to ensure the color consistency of multiple LEDs in parallel, it is recommended to use a separate resistor for each branch, as shown in mode a below;If the circuit shown in mode B below is used, the LED light color may be different due to the different volt ampere characteristics of each LED

Circuit mode A	Circuit mode B
	

●Too high temperature will affect the brightness and other performance of LED, so in order to make the LED have better performance, we should keep the led away from heat source

(REF / VF): ± 0.1V	(CAT / IV)：± 15%	(HUE / XY): ± 0.003

◆Storage

●Without opening the original package, the recommended storage environment is: temperature 5 ℃ ~ 30 ℃, humidity below 85% RH. When inventory exceeds two months, Dehumidification should be carried out before use at 60 ℃ / 8 hours

●After opening the original package, the recommended storage environment is: temperature 5 ~ 30 ° C, humidity below 60%

●LED is a humidity sensitive element. In order to avoid moisture absorption, it is recommended to store the LED in a sealed container with desiccant or in a nitrogen moisture-proof cabinet after opening the package

●After unpacking, the components should be used within 168 hours (7 days); and the welding should be completed as soon as possible after placement

● If the desiccant fails or the element is exposed to air for more than 168 hours (7 days), dehumidification should be performed

◆Electrostatic protection

LED (especially the blue, turquoise, purple, white and pink LEDs with InGaN structure chip) are electrostatic sensitive components. Electrostatic or current overload will damage the LED structure. Led static damage or current overload may lead to abnormal performance, such as large leakage, low VF, or unable to light up, etc. So please pay attention to the following

●Wear anti-static wrist strap or anti-static gloves when touching led;

All machines and equipment, tools, work table, material rack, etc. should be properly grounded (grounding impedance value less than 10 Ω);

●Storage or handling of LED should use anti-static bag, anti-static box and anti-static turnover box. It is strictly prohibited to use ordinary plastic products;

●It is suggested that ion fans should be used to suppress static electricity during operation.

◆Clean

It is recommended to use alcohol solution such as isopropanol to clean led, and corrosive solution is strictly prohibited.

◆Welding

●Refer to the temperature curve on page 1 for reflow soldering conditions;

●The number of reflow soldering shall not exceed two times;

● Manual welding is only recommended in case of repair and rework. The maximum welding temperature should not exceed 300 degrees and should be completed within 3 seconds. The maximum power of soldering iron should not exceed 30W;During the welding process, it is strictly forbidden to touch the colloid at high temperature; after welding, it is forbidden to exert external force on the colloid and bend the PCB to avoid the components from being impacted.

◆ Other

The definition of LED described in this specification applies to the range of common electronic equipment (such as office equipment, communication equipment, etc.). If there are more stringent reliability requirements, especially when the failure or failure of components may directly endanger life and health (such as aerospace, transportation, transportation, medical devices, safety protection, etc.), please inform our business personnel in advance

High brightness LED products may cause harm to human eyes when they are lit, so it is necessary to avoid looking directly from the top;For the purpose of continuous improvement, product appearance and specifications may be changed without prior notice.