Data Sheet

Customer:

Part No: CL-SP150DBW-10K-R-02

Sample No:

Description: 3216 Reverse SMD White Color

Item No:

Customer			
Check	Inspection	Approval	Date

Features

_3.2mmX1.6mm SMT LED, 1.10mm THICKNESS.

_LOW POWER CONSUMPTION.

_WIDE VIEWING ANGLE.

_IDEAL FOR BACKLIGHT AND INDICATOR.

_VARIOUS COLORS AND LENS TYPES AVAILABLE.

_PACKAGE: 3000PCS / REEL.

_RoHS COMPLIANT.

Description

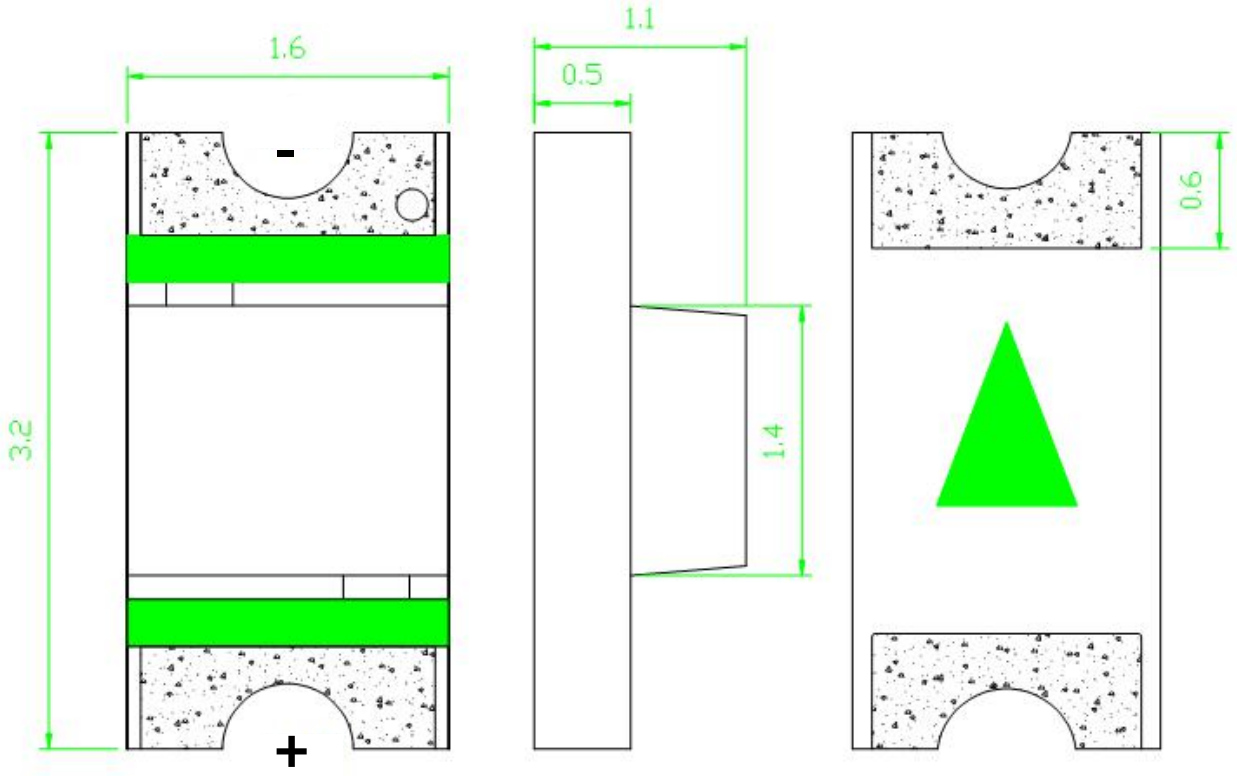
The Yellow source color devices are made with

Gallium

Arsenide Phosphide on Gallium Phosphide

Yellow Light

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).

2. Tolerance is ±0.1(0.004") unless otherwise noted.

3.Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @20mA		Viewing Angle
			Min.	MAX.	2 θ 1/2
CL-SP150DBW-10K-R-02	White	Yellow Diffused	500	1000	120

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λD	Dominant Wavelength	White	9000K	15000K	nm	IF=20mA
Δλ1/2	Spectral Line Half-width	White			nm	IF=20mA
C	Capacitance	White			pF	VF=0V;f=1MHz
VF	Forward Voltage	White	2.8		V	IF=20mA
IR	Reverse Curren	White		2	uA	VR = 7V

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or wavelength), the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm
2. Luminous Intensity: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters

Absolute Maximum Ratings at T_A=25°C

Parameter	white	Units
Power dissipation	135	mW
DC Forward Current	25	mA
Peak Forward Current [1]	140	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	

Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

Luminous Intensity Bin Limits

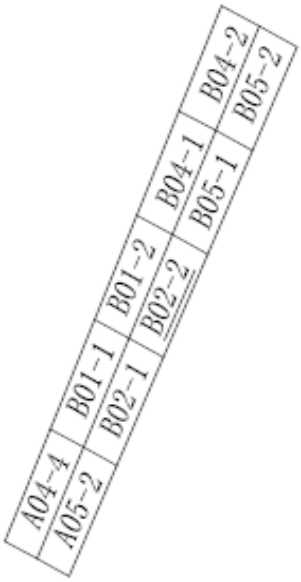
BIN Code	Test Condition @20mA	
DBW	Vfmin(v)	Vfmax (v)
1	2.8	2.9
2	2.9	3.0
3	3.0	3.1
4	3.1	3.2

Forward Voltage Bin Limits

BIN Code	Test condition：@20mA	
DBW	IVmin(mcd)	IVmax (mcd)
W1	500	600
W2	600	700
W3	700	800
W4	800	1000

Color distribution

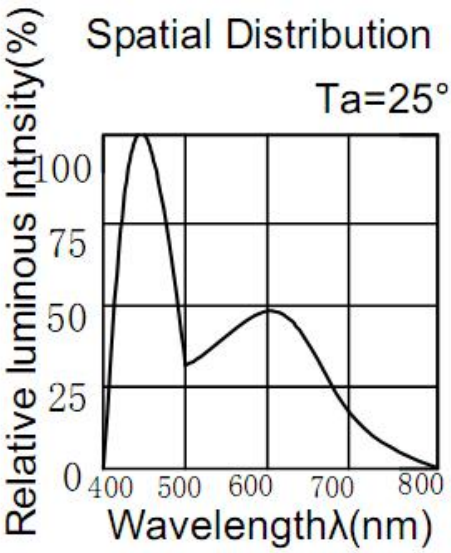
色区分布



色区 坐标	X1	Y1	X2	Y2	X3	Y3	X4	Y4
A04-4	0.2656	0.2608	0.2627	0.2622	0.2668	0.2711	0.2699	0.2697
A05-2	0.2685	0.2594	0.2656	0.2608	0.2699	0.2697	0.2729	0.2682
B01-1	0.2699	0.2697	0.2668	0.2711	0.2709	0.2798	0.2740	0.2783
B01-2	0.2740	0.2783	0.2709	0.2798	0.2747	0.2881	0.2780	0.2866
B02-1	0.2729	0.2682	0.2699	0.2697	0.2740	0.2783	0.2772	0.2768
B02-2	0.2772	0.2768	0.2740	0.2783	0.2780	0.2866	0.2812	0.2850
B04-1	0.2780	0.2866	0.2747	0.2881	0.2786	0.2964	0.2820	0.2948
B04-2	0.2820	0.2948	0.2786	0.2964	0.2825	0.3047	0.2860	0.3031
B05-1	0.2812	0.2850	0.2780	0.2866	0.2820	0.2948	0.2853	0.2932
B05-2	0.2853	0.2932	0.2820	0.2948	0.2860	0.3031	0.2894	0.3015

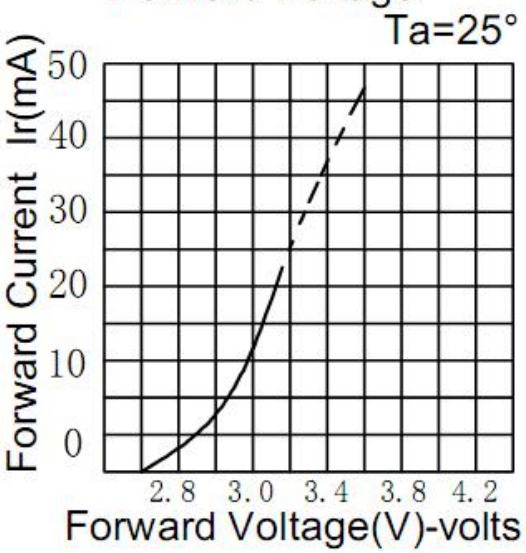
Spatial Distribution

Ta=25°

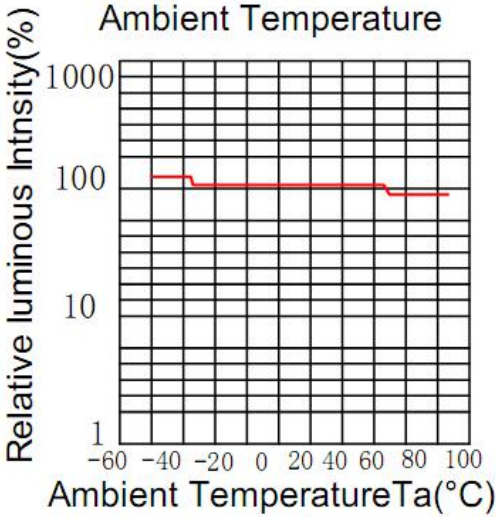


Forward Voltage

Ta=25°

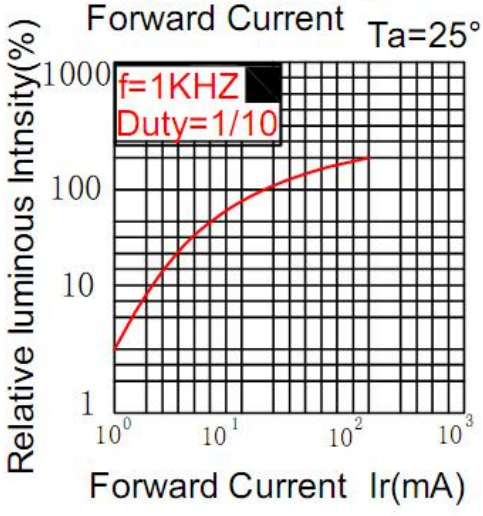


Luminous Intensity VS Ambient Temperature

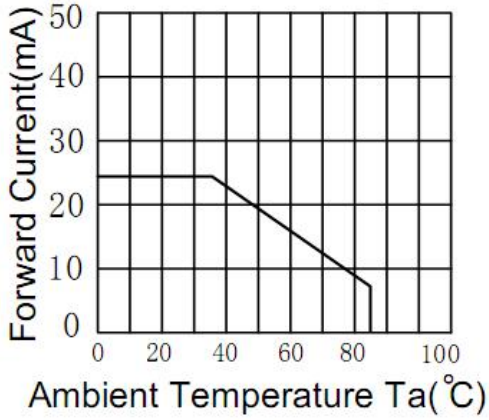


Luminous Intensity VS Forward Current

Ta=25°

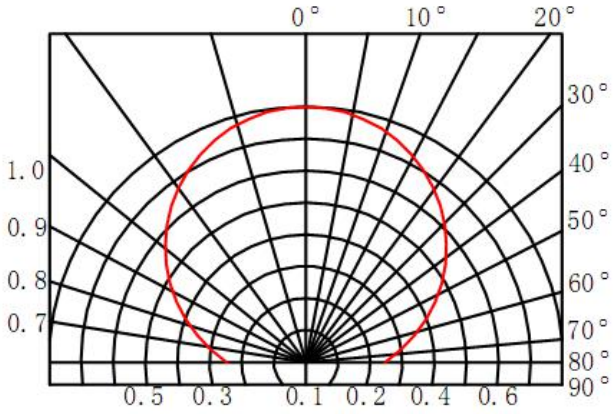


Forward Current Derating Curve



Radiation Diagran

Ta=25°



RELIABILITY

(1) Test Items and Results

NO.	Test Item	Reference Standard	Test Conditions	(Hours/ Cycles)	Sample	Number of Damaged
1	Temperature Cycle	JEITA ED-4701	-40 °C - 25 °C - 100 °C - 25 °C 30min 5min 30min 5min	100 Cycles	50	0/50
2	Thermal shock	MIL-STD-202G	-40℃～100℃ 15min 15min	500 Cycles	50	0/50
3	High Temperature Storage	JEITA ED-4701 200 201	Ta=100℃	1000 Hours	50	0/50
4	Low Temperature Storage	JEITA ED-4701 200 201	Ta=-40℃	1000 Hours	50	0/50
5	Room Temperature Life Test		Ta=25±5℃ IF=20mA	1000 Hours	50	0/50
6	High Temperature High Humidity Life Test		Ta=60℃ RH=85% IF=20mA	1000 Hours	50	0/50
7	Solderability (Reflow Soldering)	JEITA ED-4701 300 303	Tsol=235℃±5℃, 5sec (Using Flux, Lead Solder)	1 time, 5sec	10	0/10
8	Resistance to Soldering Heat (Reflow Soldering)	JEITA ED-4701 300 301	Tsol=260℃, 10 sec Pre Treatment: 35 °C 95% RH96 Hrs	2 time, 10sec	10	0/10

The above test items such as differences or special customer specific requirements according to the actual situation in accordance with the requirements of customers to try the requirements with the customer, the customer is not required by our test standard test. Different products using different current test

5. Cautions

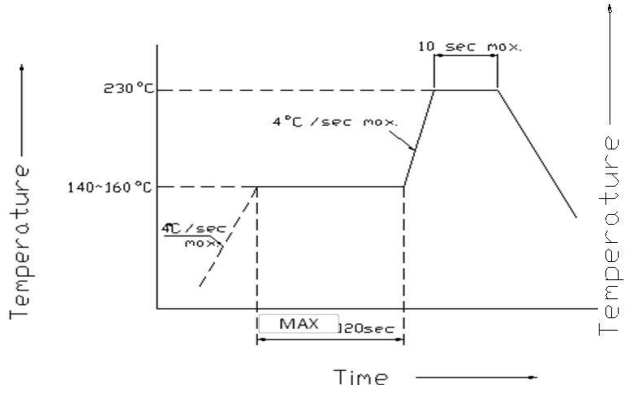
(1) Soldering Conditions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

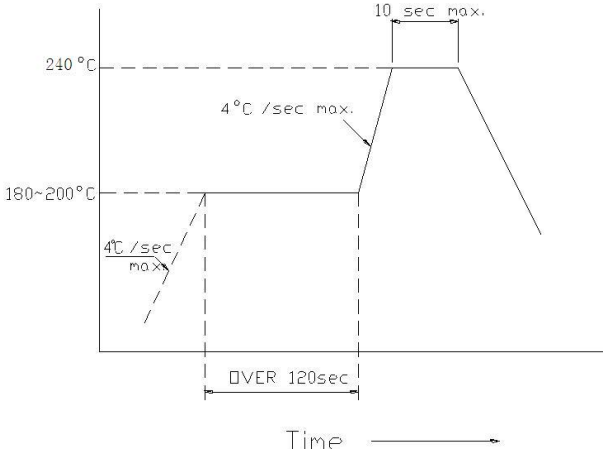
(Recommended soldering conditions)

Reflow Soldering			Manual Welding	
Condition	Lead Solder	Lead-free Solder		
Pre-heat	140 ~ 160° C	180 ~ 200° C	Temperature	350° C Max.
Pre-heat time	120 sec. Max.	120 sec. Max.	Soldering time	3 sec. Max. (one time only)
Peak temperature	230° C Max.	240° C Max.		
Soldering time	10 sec. Max.	10 sec. Max.		

（Lead Solder）

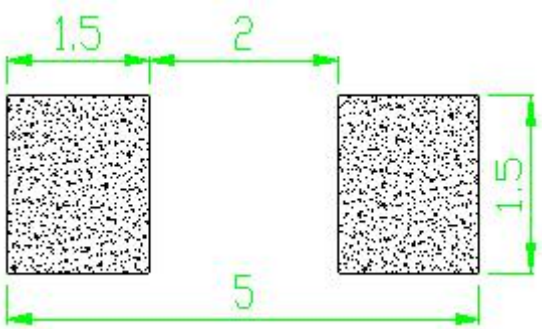


(Lead-Free Solder)



Recommended Solderi

(Units : mm)



(2)Static Electricity

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

All devices, equipment and machinery must be properly grounded.

Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current. Criteria : (VF > 2.0V at IF=0.5mA)

(3) Moisture Proof Package

It is recommended that moisture proof package be used .

(4)Cautions:

4.1.Please check if there is air leak before opening the package, if so, please return the goods back to take drying process for later using.

4.2 Products can be used within 15days after packaging, after that, they must be:

4.2.1 Soldered within 24 hrs

4.2.2 Used in the condition: 30℃ within and 60%RH below

4.2.3 Stored in 30%RH for moisture below.

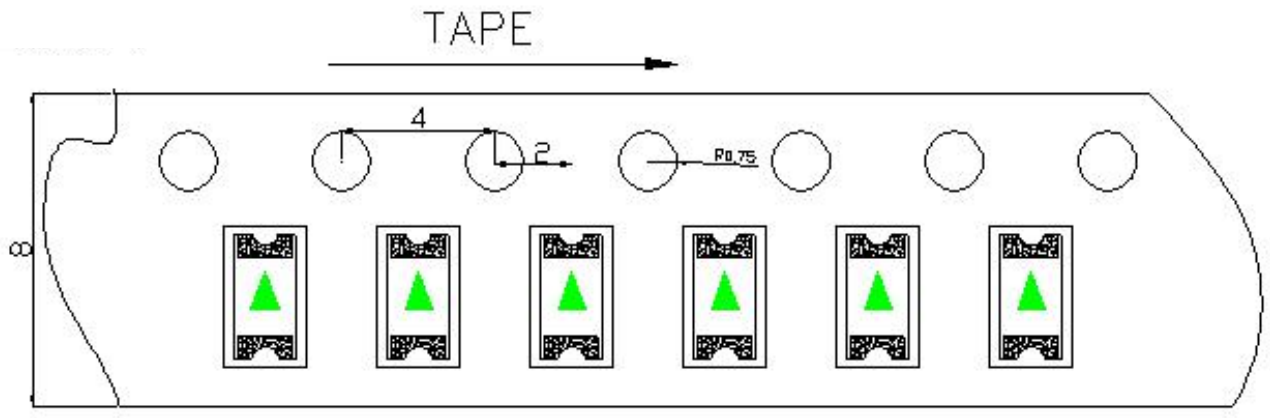
4.3.Products cannot be used for and over 15days after being packaged unless opening the package and take drying our process in 85℃/6H.

4.4.Products not be used for or over 60days after being packaged please return back to take drying out and packaging process for forward using.

4.5.Products not be used after opening the package need to be dried out for 85℃/6H

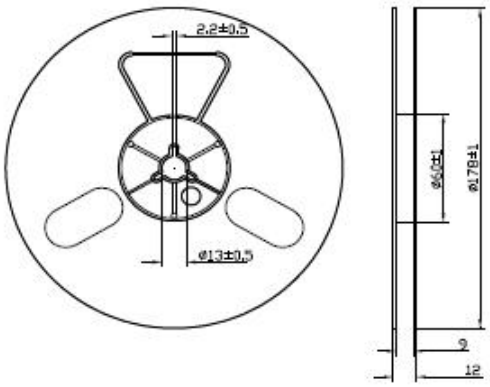
PACKAGING

The LEDs are packed in cardboard boxes after taping.

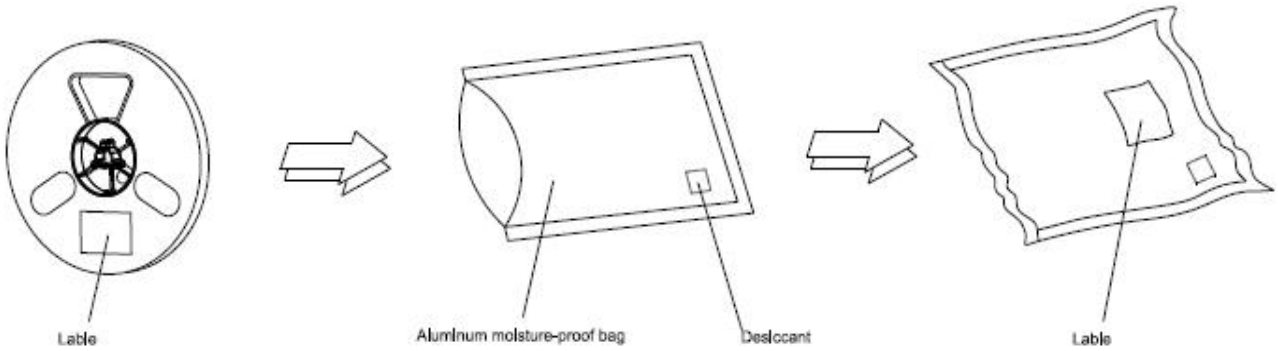


Package:3000PCS/reel

Reel Dimensions



Moisture Resistant Packaging



Note:The tolerances unless mentioned is ±0.1mm,Unit:mm