Data Sheet

Customer: _____

Part No: CL-SPD192DLG

Sample No: _____

Description: _____

Item No: _____

Customer			
Check	Inspection	Approval	Date

Features

_1.6mmX0.8mm SMT LED, 0.95mm THICKNESS.

_LOW POWER CONSUMPTION.

_WIDE VIEWING ANGLE.

_IDEAL FOR BACKLIGHT AND INDICATOR.

_VARIOUS COLORS AND LENS TYPES AVAILABLE.

_PACKAGE: 3000PCS / REEL.

_RoHS COMPLIANT.

Description

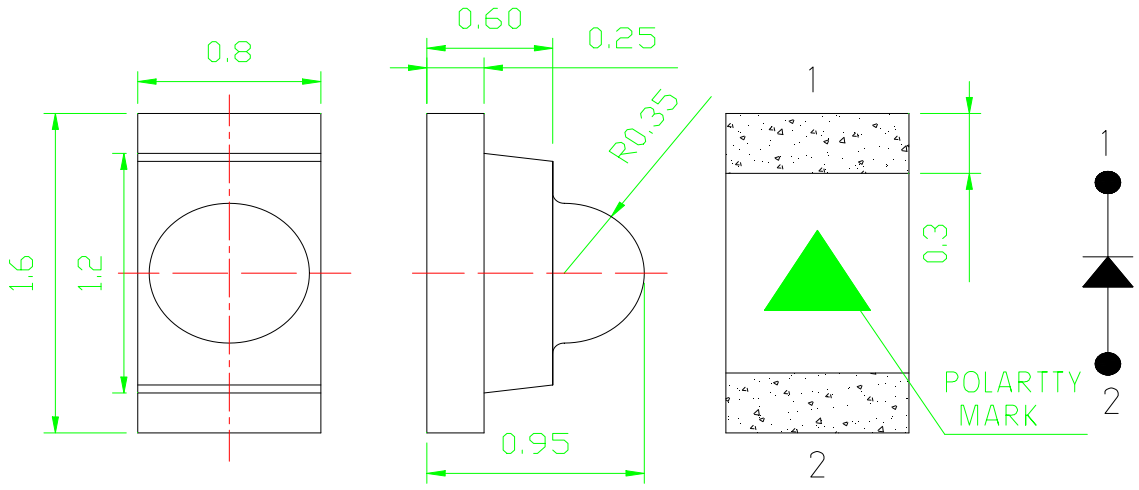
The GREEN source color devices are made with GaN on Sapphire Light Emitting Diode.

Static electricity and surge damage the LEDS.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

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.	Typ.	2 θ 1/2
CL-SPD192DLG	GREEN (GaN)	WATER CLEAR	1200	2500	35

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
λpeak	Peak Wavelength	GREEN	516	526	nm	IF=20mA
λD	Dominant Wavelength	GREEN			nm	IF=20mA
Δλ1/2	Spectral Line Half-width	GREEN	25		nm	IF=20mA
C	Capacitance	GREEN	105		pF	VF=0V;f=1MHz
VF	Forward Voltage	GREEN	2.9	3.4	V	IF=20mA
IR	Reverse Curren	GREEN		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

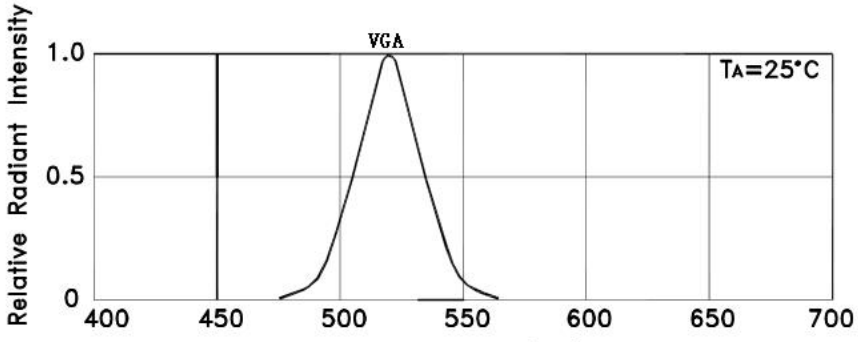
Note: Accuracy may depend on the sorting parameters

Absolute Maximum Ratings at T_A=25°C

Parameter	GREEN	Units
Power dissipation	135	mW
DC Forward Current	30	mA
Peak Forward Current [1]	140	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	

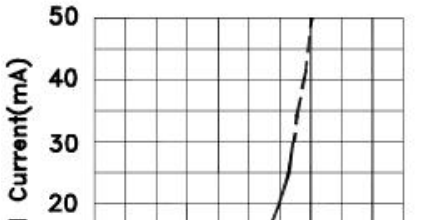
Note:

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

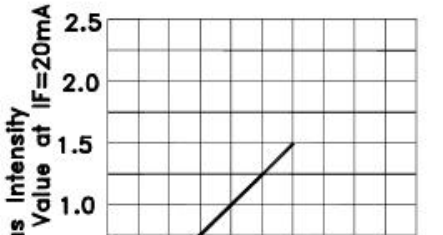


RELATIVE INTENSITY Vs. WAVELENGTH

GREEN

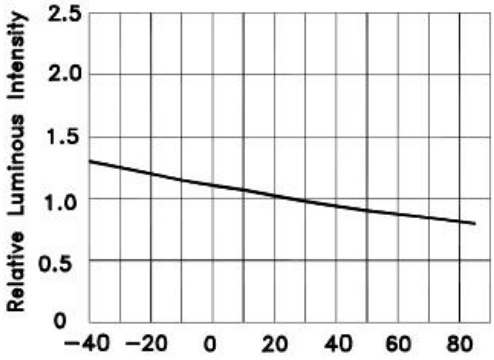


FORWARD CURRENT Vs.
FORWARD VOLTAGE

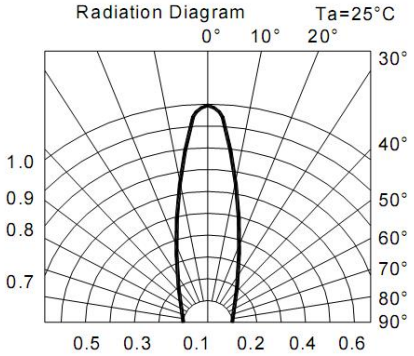


LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



RELIABILITY

Test Items and Results

NO.	Test Item	Reference Standard	Test Conditions	Note (Hours/Cycles)	Sample	Number of Damaged
1	Temperature Cycle	JEITA ED-4701	-40℃ ~ 25℃ ~ 100℃ ~ 25℃ 30min 5min 30min 5min	100 Cycles	50	0/50
2	Thermal shock	MIL-STD-202G	-40℃～100℃ 15min 15min	100 Cycles	50	0/50
3	High Temperature Storage	JEITA ED-4701 200 201	T_a=100℃	1000 Hours	50	0/50
4	Low Temperature Storage	JEITA ED-4701 200 201	T_a=-40℃	1000 Hours	50	0/50
5	Room Temperature Life Test		T_a=25±5℃ I_F=20mA	1000 Hours	50	0/50
6	High Temperature High Humidity Life Test		T_a=60℃ RH=85% I_F=20mA	1000 Hours	50	0/50
7	Solderability (Reflow Soldering)	JEITA ED-4701 300 303	T_{sol}=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	T_{sol}=260℃,10 sec Pre Treatment: 35℃ 95% RH 96 Hrs	1 time, 10sec	10	0/10

5.Cautions

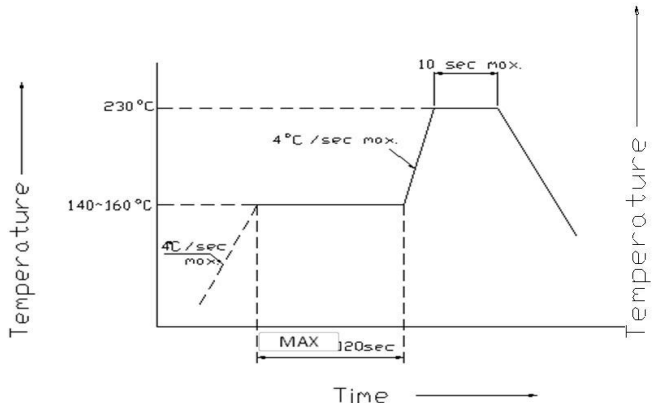
(1)Soldering Conditions

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

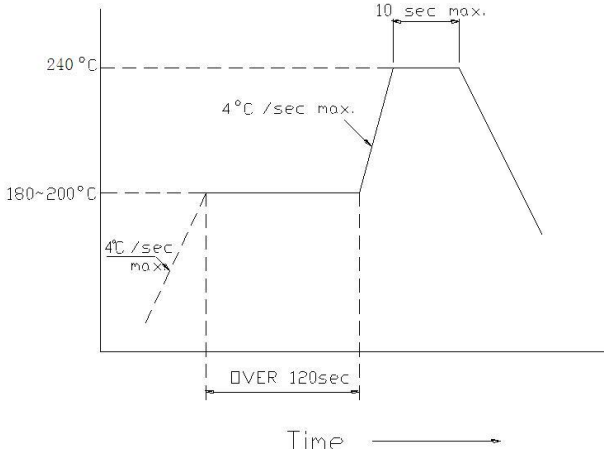
(Recommendedsolderingconditions)

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

（LeadSolder）

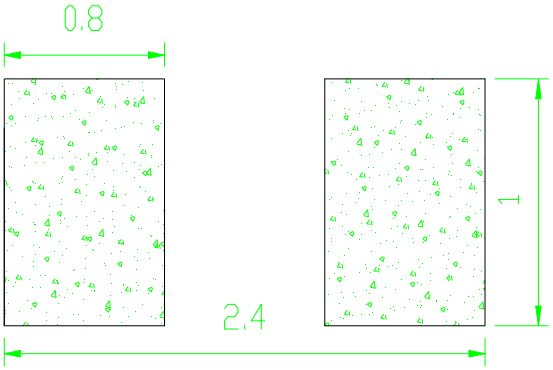


(Lead-FreeSolder)



Recommended Soldering Pattern

(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.

2.0V 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 ProofPackage

It is recommended that moisture proof package be used.

(4) Cautions:

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.

Products can be used within15days after packaging,after that,they must be:

Soldered within 24 hrs

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

Stored in 30%RH for moisture below.

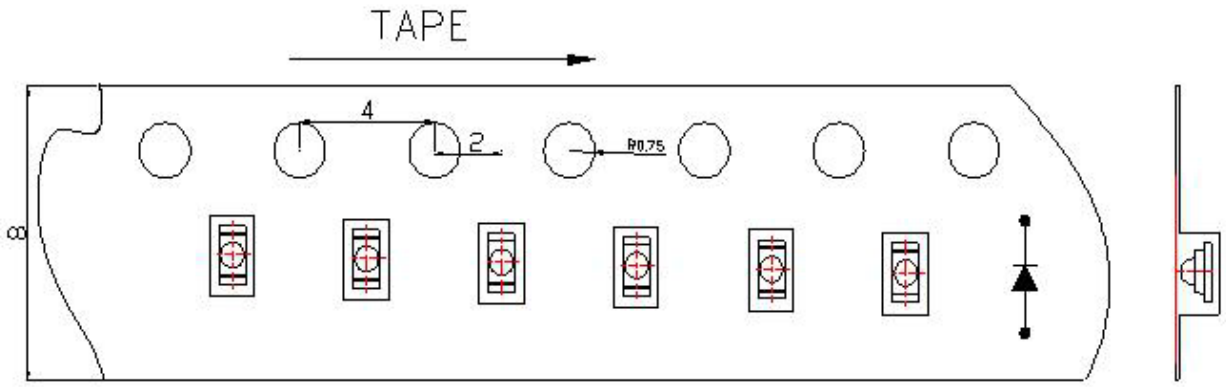
Products cannot be used for and over 15days after being packaged unless opening the package and take drying our process in 85℃/6H.

Products not be used for or over60days after being packaged please return back to take drying out and packaging process for forward using.

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

PACKAGING

.The LEDs are packed in cardboardboxes after taping.



Package: 3000 PCS/reel

R ee l D ime ns ion s

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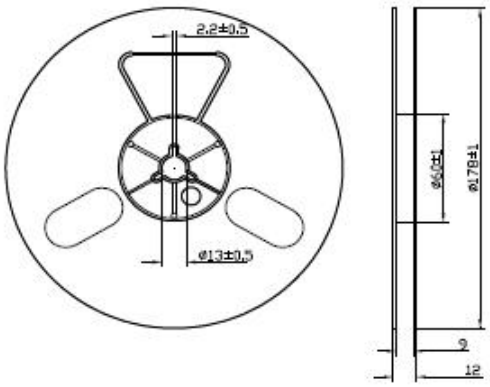
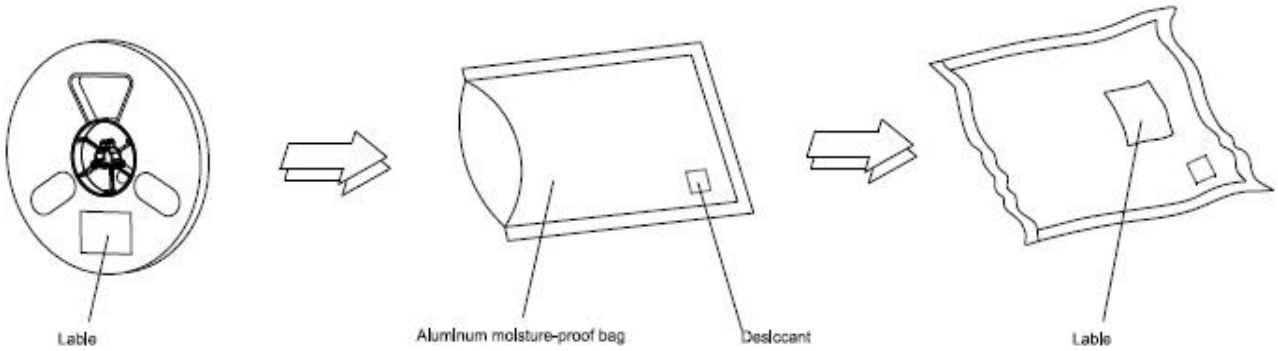


MoistureResistantPackaging



Note:The tolerance sunless mentioned is ±0.1mm,Unit:mm