

Data Sheet

Customer: _____

Part No: _____ CL-SPD192UHR _____

Sample No: _____

Description: _____

Item No: _____

Customer			
Check	Inspection	Approval	Date

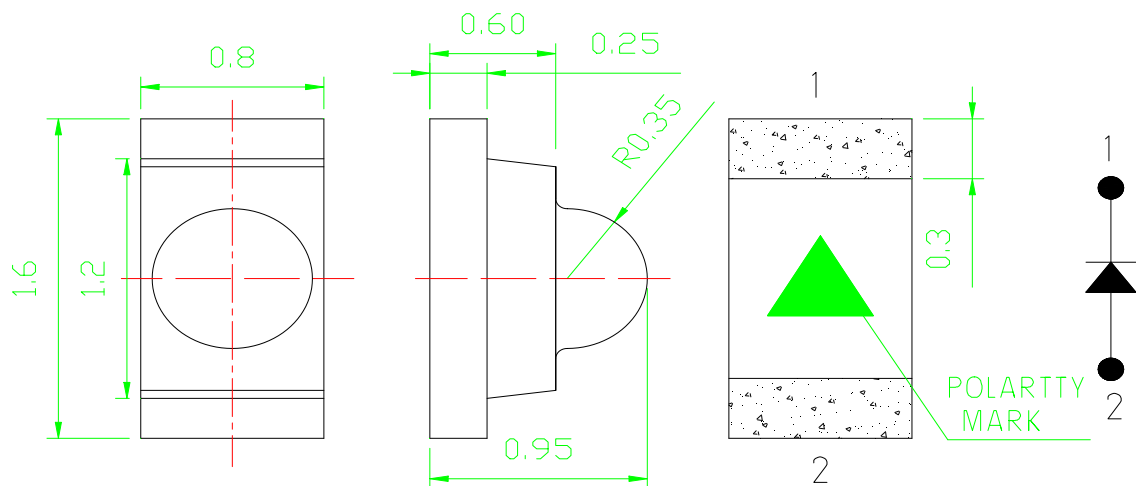
Features

- _ 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: 4000PCS / REEL.
- _ RoHS COMPLIANT.

Description

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode

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
<u>CL-SPD192UHR</u>	RED	WATER CLEAR	1000	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 TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ _{peak}	Peak Wavelength	RED	617	625	nm	IF=20mA
λ _D	Dominant Wavelength	RED			nm	IF=20mA
Δλ _{1/2}	Spectral Line Half-width	RED	25		nm	IF=20mA
C	Capacitance	RED	105		pF	VF=0V;f=1MHz
VF	Forward Voltage	RED	1.8	2.2	V	IF=20mA
IR	Reverse Current	RED		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

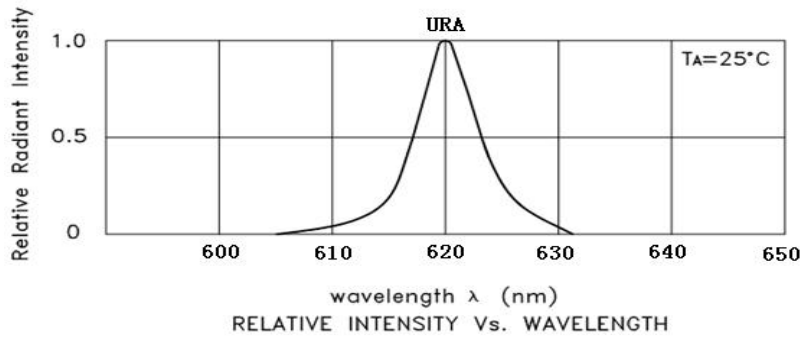
Note: Accuracy may depend on the sorting parameters

Absolute Maximum Ratings at TA=25°C

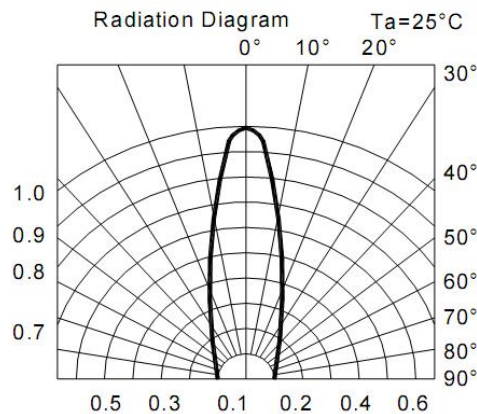
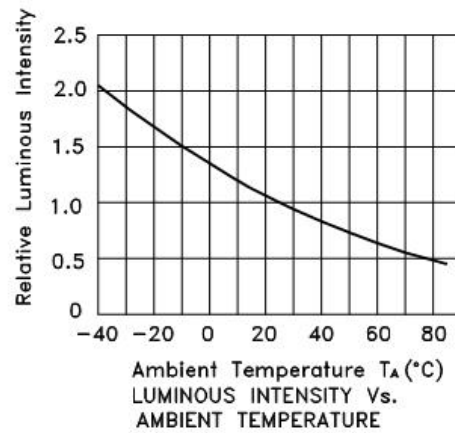
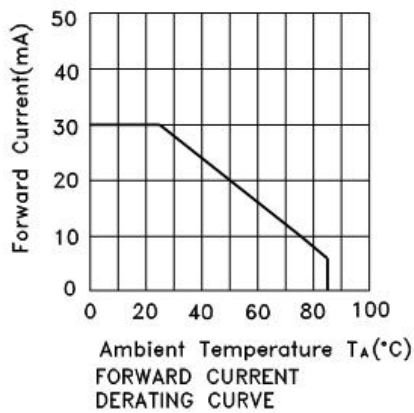
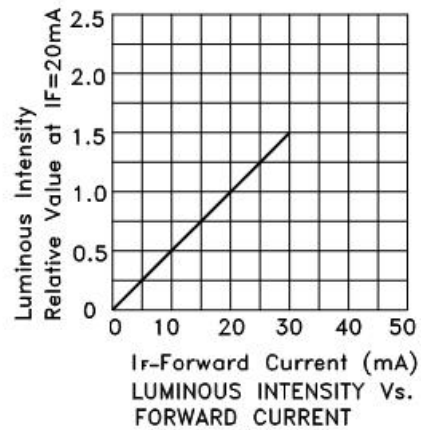
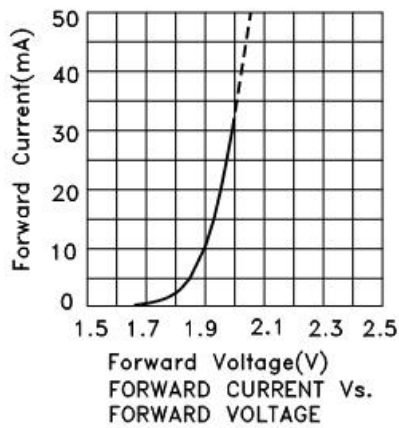
Parameter	RED	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	80	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	

Note:

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



CL-SPD192UHR



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	500 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

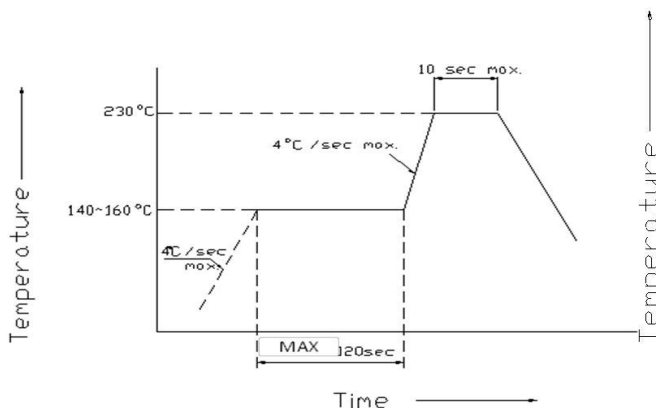
(1)SolderingConditions

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

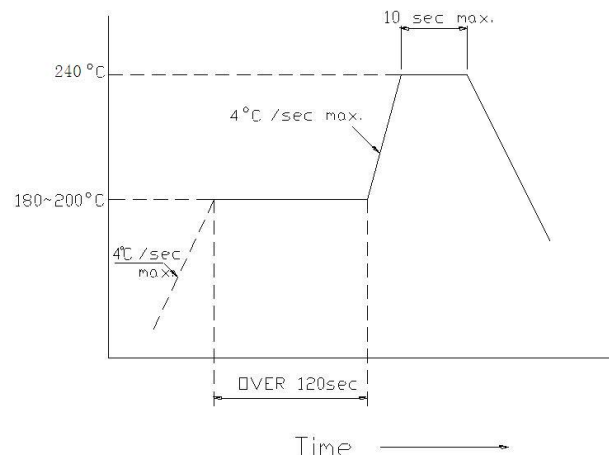
(Recommendedsolderingconditions)

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)

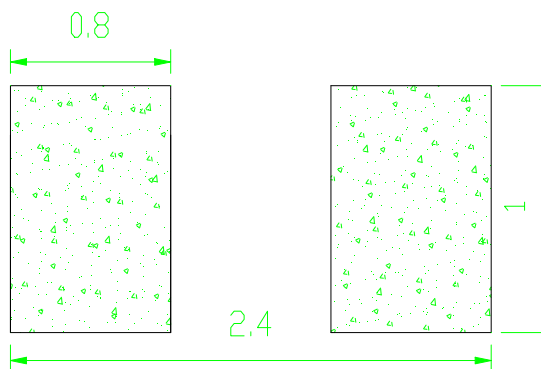


(Lead-FreeSolder)



Recommended Soldering Pattern

(Units : mm)



(2)StaticElectricity

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 : ($V_F > 2.0V$ at $I_F = 0.5mA$)

(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 15 days after packaging, after that, they must be:

4.2.1

Soldered within 24 hrs

4.2.2

Used in the condition: $30^{\circ}C$ within and 60%RH below

4.2.3

Stored in 30%RH for moisture below.

4.3.

Products cannot be used for and over 15 days after being packaged unless opening the package and take drying out process in $85^{\circ}C/6H$.

4.4.

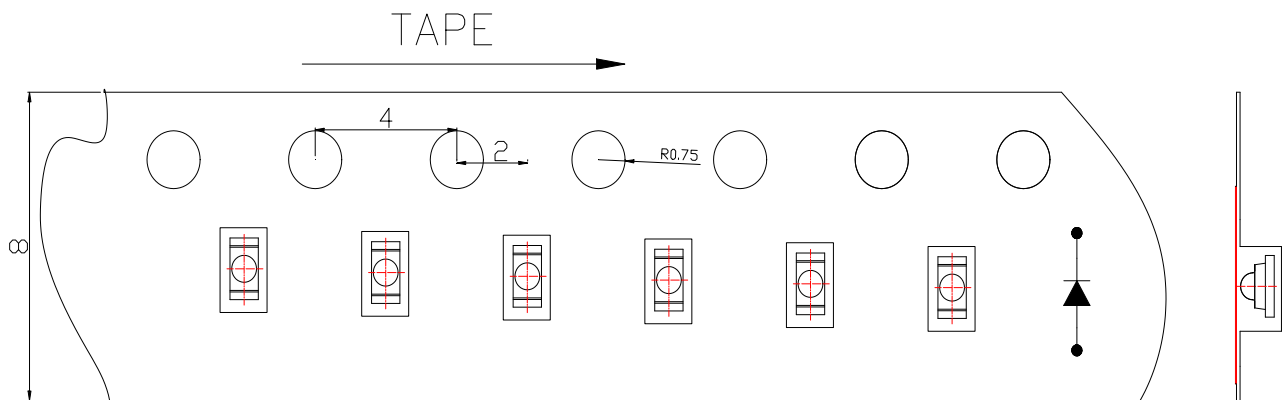
Products not be used for or over 60 days after being packaged please return back to take drying out and packaging process for forward using.

4.5.

Products not be used after opening the package need to be dried out for $85^{\circ}C/6H$

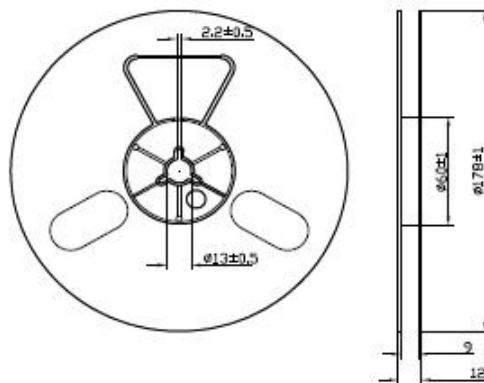
PACKAGING

The LEDs are packed in cardboard boxes after taping.

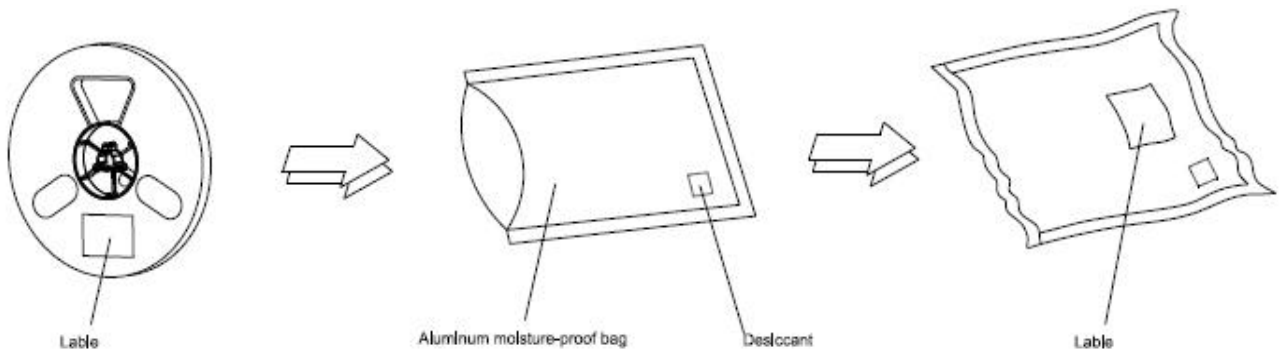


Package: 4000 PCS/reel

Reel Dimensions



Moisture Resistant Packaging



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