Luckylight

0.60mm Height 0603 Package Ultra Amber Chip LED Technical Data Sheet

Part No.: LL-S192PUAC-2A

Features:

- ◇ Package in 8mm tape on 7" diameter reel.
- ◇ Compatible with automatic placement equipment.
- ◇ Compatible with infrared and vapor phase reflow solder process.
- ◇ Mono-color type.
- ◇ The product itself will remain within RoHS compliant Version.

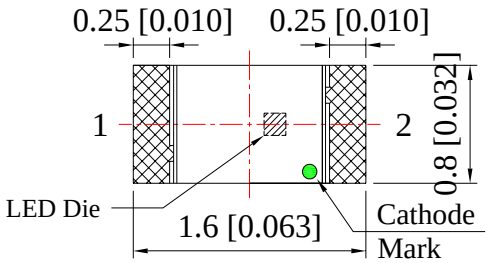
Descriptions:

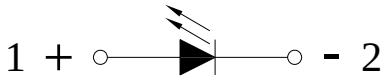
- ◇ The S192P SMD LED is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- ◇ Besides, lightweight makes them ideal for miniature applications, etc.

Applications:

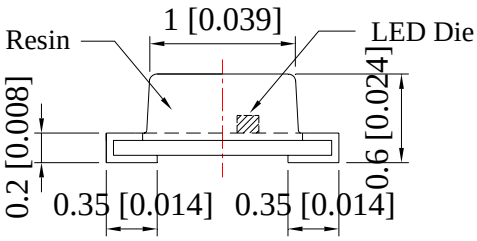
- ◇ Automotive: Backlighting in dashboard and switch.
- ◇ Telecommunication: Indicator and backlighting in telephone, sound and fax.
- ◇ Flat backlight for LCD, switch and symbol.
- ◇ General use.

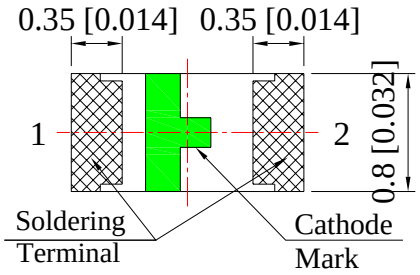
Package Dimension:



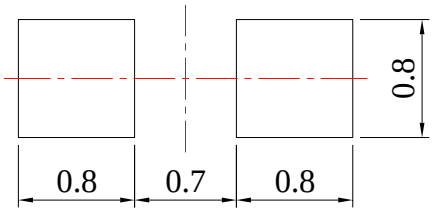


Polarity





Recommended Soldering Pad Dimensions



Unit: mm
Tolerance: ±0.10mm

Part No.	Chip Material	Lens Color	Source Color
LL-S192PUAC-2A	AlGaInP	Water Clear	Ultra Amber

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.10 mm (.004”) unless otherwise specified.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta=25℃

Parameters	Symbol	Max.	Unit
Power Dissipation	PD	60	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	100	mA
Continuous Forward Current	IF	25	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	-40℃ to +80℃	
Storage Temperature Range	Tstg	-40℃ to +85℃	
Soldering Temperature	Tsld	260℃ for 5 Seconds	

Electrical Optical Characteristics at Ta=25℃

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity *	IV	15	25	---	mcd	IF=20mA (Note 1)
Viewing Angle *	2θ1/2	---	130	---	Deg	IF=20mA (Note 2)
Peak Emission Wavelength	λp	---	610	---	nm	IF=20mA
Dominant Wavelength	λd	---	605	---	nm	IF=20mA (Note 3)
Spectral Line Half-Width	△λ	---	30	---	nm	IF=20mA
Forward Voltage	VF	1.50	2.00	2.40	V	IF=20mA
Reverse Current	IR	---	---	10	μA	V_R=5V

Notes:

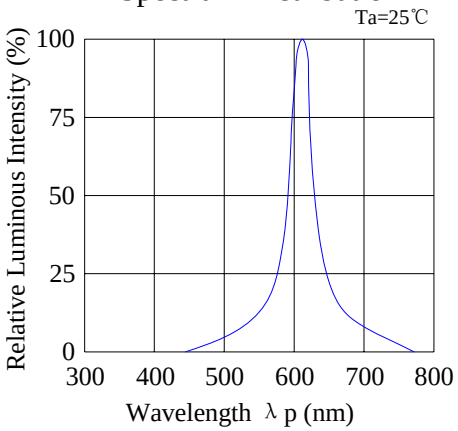
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

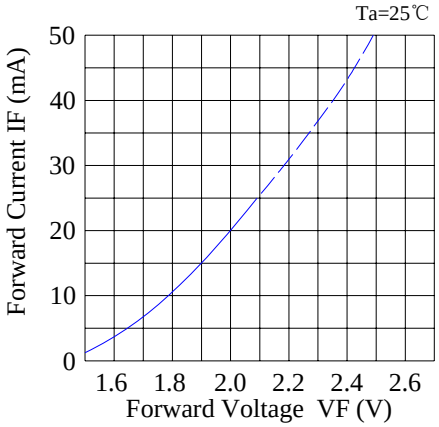
3. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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

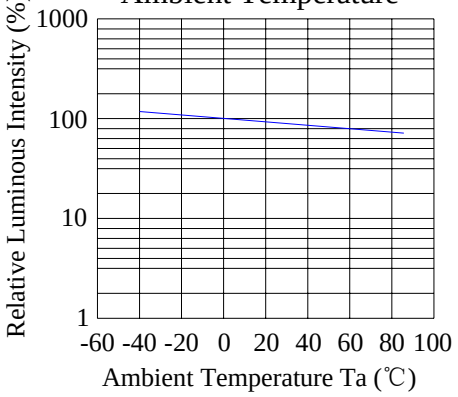
Spectrum Distribution



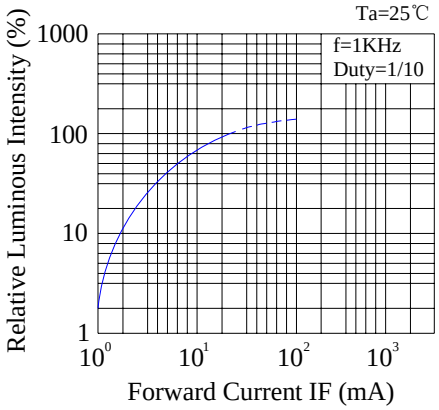
Forward Current & Forward Voltage



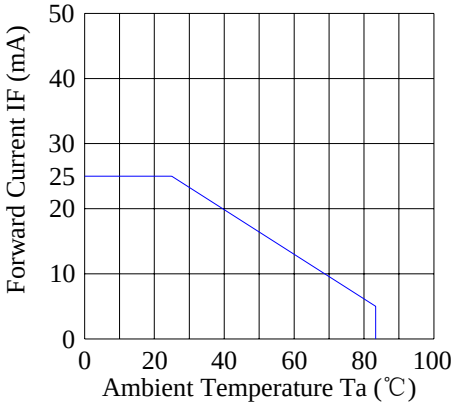
Luminous Intensity & Ambient Temperature



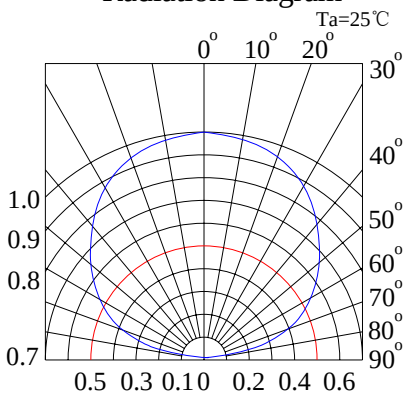
Luminous Intensity & Forward Current



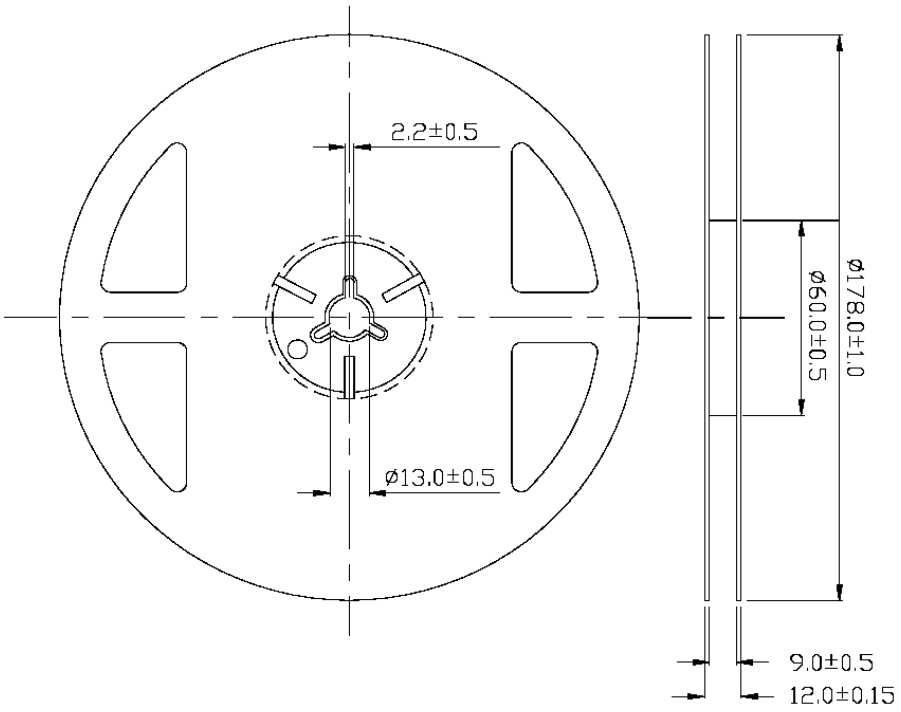
Forward Current Derating Curve



Radiation Diagram

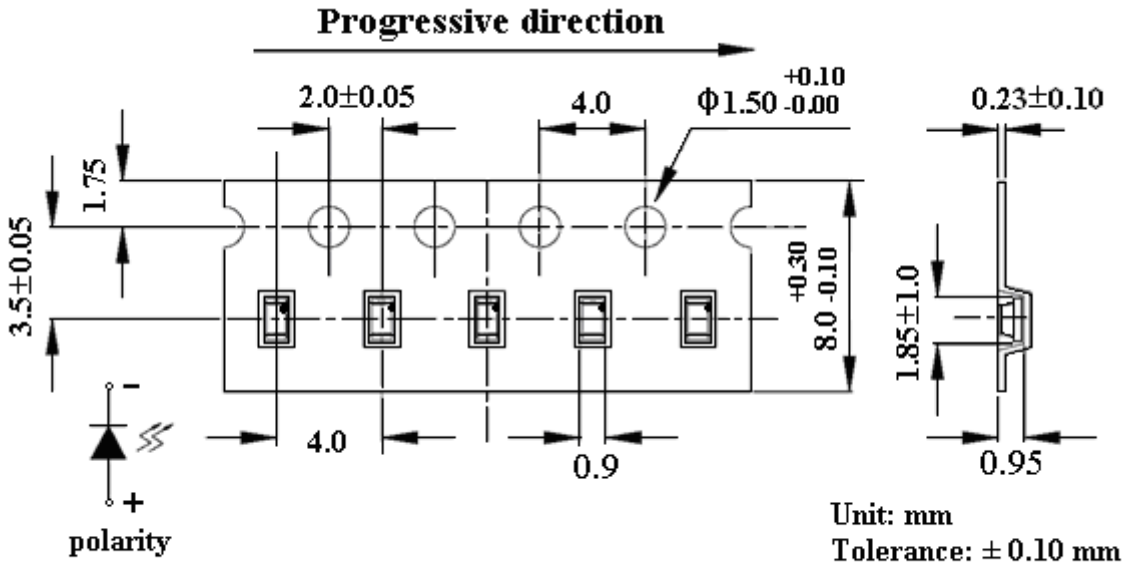


Reel Dimensions:



Carrier Tape Dimensions:

Loaded quantity 4000 PCS Per reel.



Please read the following notes before using the product:

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

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℃ or less and 90%RH or less.

2.3 The LEDs should be used within a year.

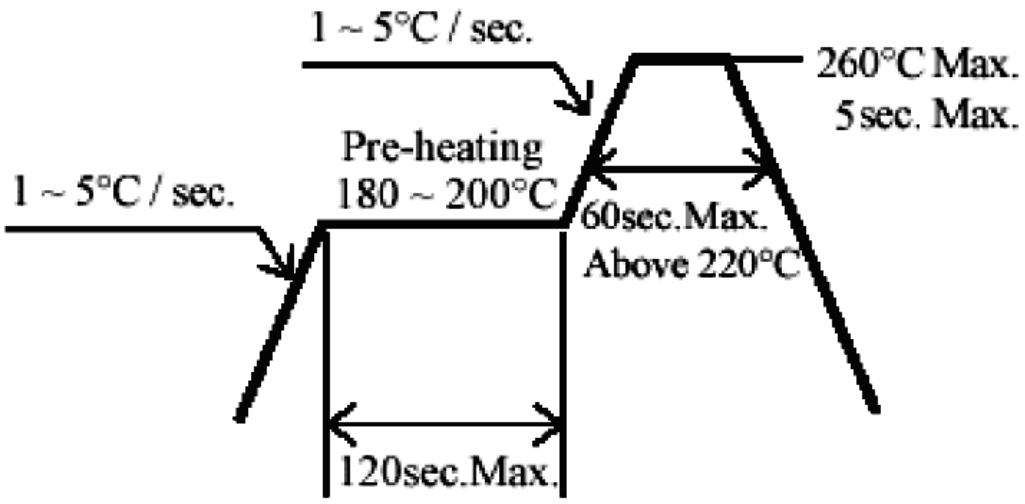
2.4 After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.

2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

2.6 If the moisture adsorbent material (silica gel) has fabled away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment: 60±5℃ for 24 hours.

3. Soldering Condition

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.

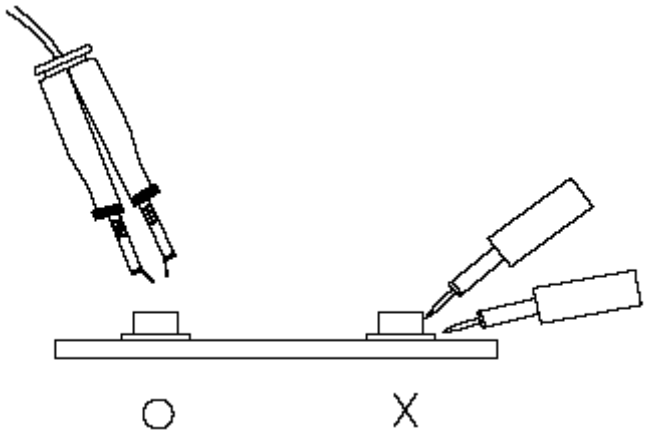
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 260℃ for 5 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



6. Caution in ESD

Static Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.