SEMILEDS

PRODUCT DATASHEET

SLLP-F586-1520-UV

Introduction

The SLLP-F586-1520-UV product is a compact, high quality and reliable 1-chip UV LED with very small view angle of 30 degree. Featuring high radiometric power density and design flexibility - the SLLP-F586-1520 -UV spectrum can be tailored to your aquarium, nail gel curing, counterfeit detection, signage, cosmetic, insect attraction and other UV applications.

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RoHS Compliant

Characteristics

Absolute Maximum Ratings (T_j=25°C)

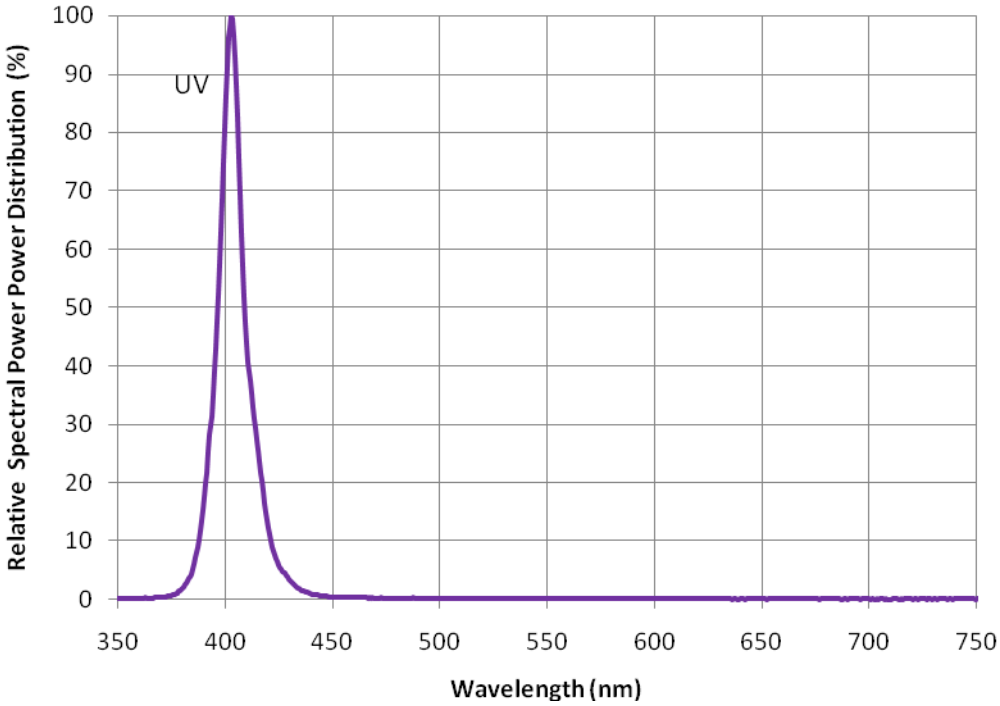
Reverse Voltage	Note 1
ESD Sensitivity	2,000 V HBM (JESD-22A-114-B)
Operating Temperature Range	-40°C to 85°C
Storage Temperature Range	-40°C to 100°C
Lead Soldering Temperature Range (1.6 mm (1/16 inch) from body)	245°C for 5 seconds

Note:
1. UV LEDs should never be operated with reverse bias.

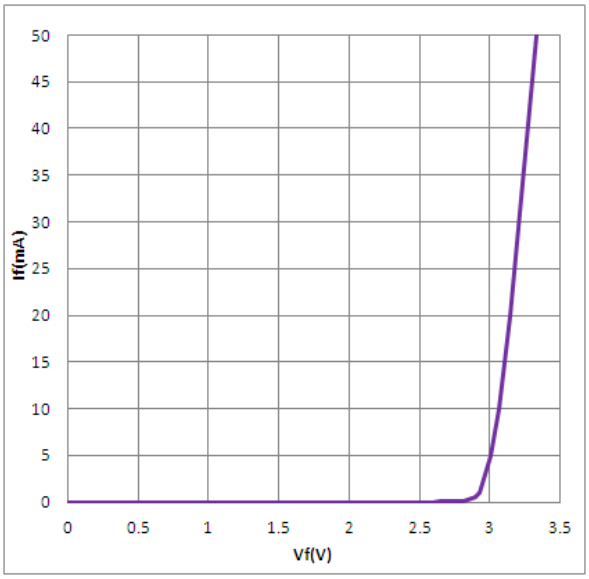
Electrical / Optical (T_j=25℃)

Parameter	Symbol	Min	Typ	Max	Unit	Test
Luminous Intensity	IV	12	15	25	mW	If=20mA
Viewing Angle	$2\theta_{1/2}$		30		deg	If =20mA
Peak Emission Wavelength	λ_P	390		425	nm	If =20mA
Forward Voltage	VF		3.3	4.0	V	If =20mA
Power Dissipation	Pd		66		mW	

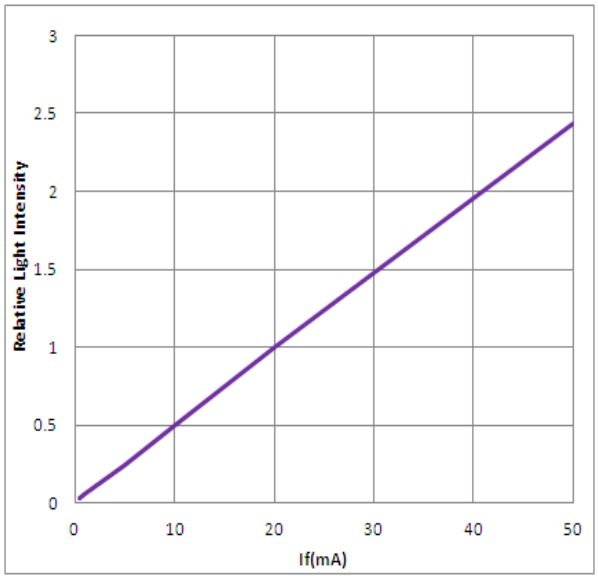
Relative Spectral Power Distribution, T_j=25˚C



Typical Electro-Optical Characteristics Curves

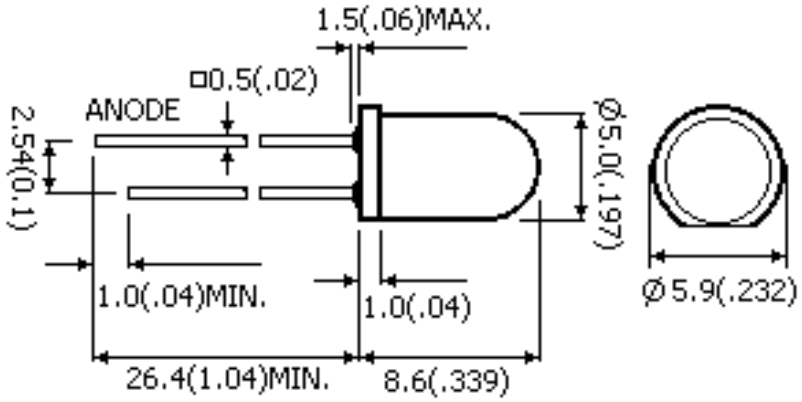


Forward Current vs. Forward Voltage



Relative Intensity vs. Forward Current

Mechanical Dimensions



Note: All tolerances shall be ±0.01 inch/0.25mm

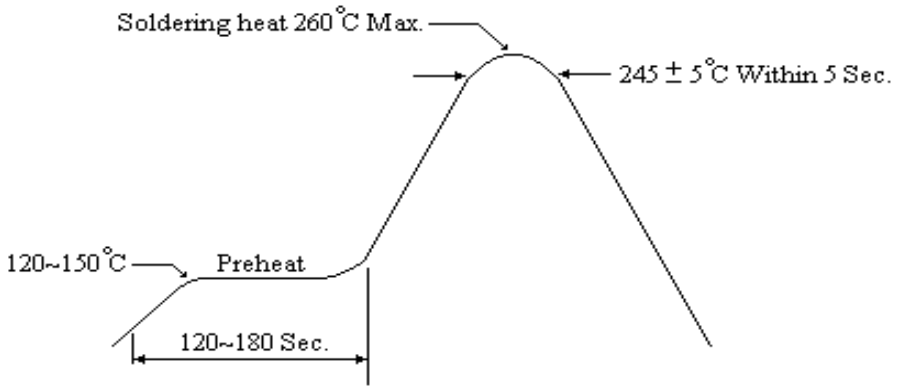
Reliability Test Items and Results

Item	Test Conditions	Test Time/Cycle	Sample Size	Ac/Re
DC Operating Life	Temperature:25°C IF:20mA	1000HRS	76PCS	0/1
High Temperature High Humidity	Temperature:85°C 85%RH	1000HRS	76PCS	0/1
High Temperature Storage	Temperature:100°C	1000HRS	76PCS	0/1
Low Temperature Storage	Temperature:-40°C	1000HRS	76PCS	0/1
Temperature Cycling	85°C～25°C～-35°C 15min～5mim～15min	15Cycles	76PCS	0/1
Thermal Shock	85°C～25°C～-10°C 5min～10sec～5min	15Cycles	76PCS	0/1
Solder Heat	Temperature:260°C ±5°C	10SEC.	76PCS	0/1

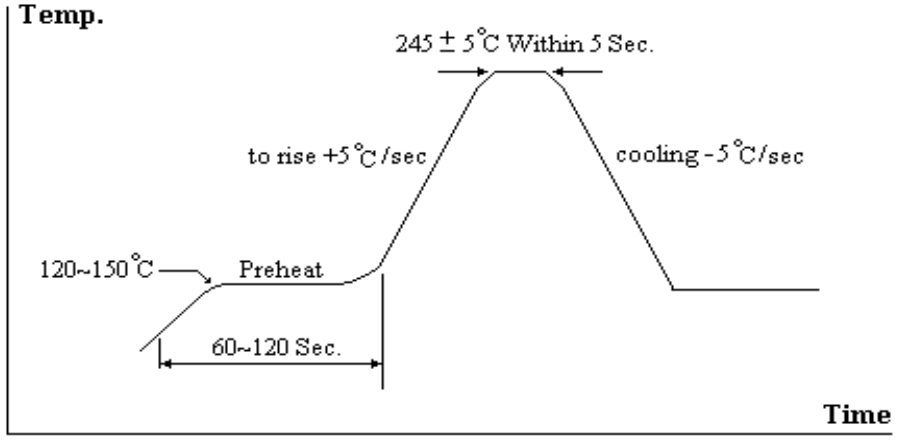
Recommended Soldering Profile

Recommended soldering condition as shown below:

Soldering heat (DIP)



Reflow Temp./Time



Soldering Iron

Temperature at tip of iron : 300°C Max. (25 W Max.)

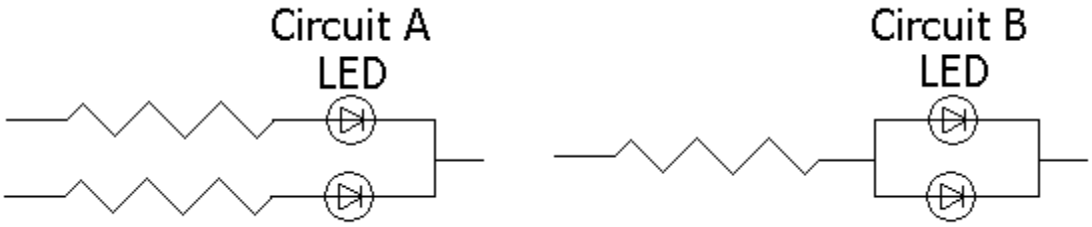
Soldering Time : 3 sec. ± 1 sec. (one time only)

If temperature is higher, time should be shorter.

Cautions

Drive Method

LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit.



(a) Circuit A is the recommended circuit.
(b) In Circuit B, the brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

Over-current-proofing

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

Storage

The Storage Temperature and RH are: 5°C～30°C, RH 60% or less.
Once the package is opened, the products should be used within a week. Otherwise, they should be kept in moisture proof package with moisture absorbent material (silica gel).
We suggest our customers to use our products within a year.
If the moisture absorbent material (silica gel) has faded away or the LEDs exceeded the storage time, baking treatment should be performed using the following conditions.
Baking treatment: more than 24 hours at 60°C ±5°C.

Electrostatic Discharge (ESD)

Static electricity or surge voltage will damage the LEDs
Suggestions to prevent ESD damage:
Use of a conductive wrist band or ante-electrostatic glove when handing these LEDs.
All devices, equipment, and machinery must be properly grounded.
Work tables storage racks, etc. should be properly grounded.
In the event of manual working in process, make sure the devices are well protected from ESD at any time.

Others

(a) In order to achieve uniform luminance and color, please use the same binning number, and avoid intermixing different bins.
(b) The appearance and specifications of the product may be modified for improvement without prior notice.

About Us

SemiLEDs is an innovative manufacturer of chip-level and packaged LEDs that enable today's advanced solid state lighting solutions. Fully ISO9001 certified, with state of the art fabrication facilities in Hsinchu Science Park, Taiwan, the company employs patented and proprietary technologies that deliver high performance with increased color stability and lumen maintenance. SemiLEDs visible- and ultraviolet-LEDs are found in a wide variety of general lighting applications, including street lights and commercial, industrial and residential architectural lighting, along with specialty industrial applications such as UV curing, medical/cosmetic, counterfeit detection, and horticulture.

SemiLEDs is a publicly traded company on NASDAQ Global Select Market (stock symbol "LEDS"). For investor information, please contact us at **investors@semileds.com.**

For further company or product information, please visit us at **www.semileds.com** or please contact **sales@ semileds.com.**

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