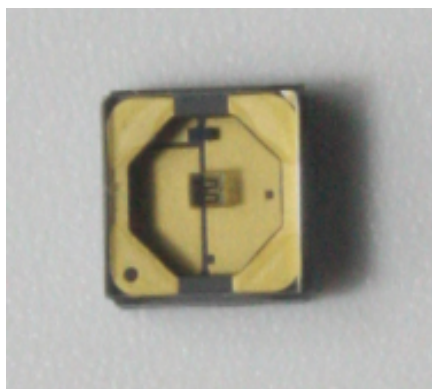


LED COLOR

UV275A-3535



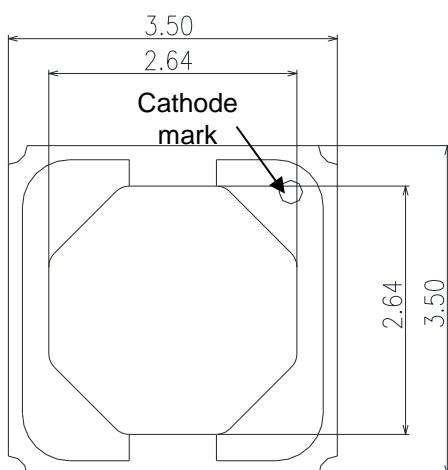
TENTION

OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

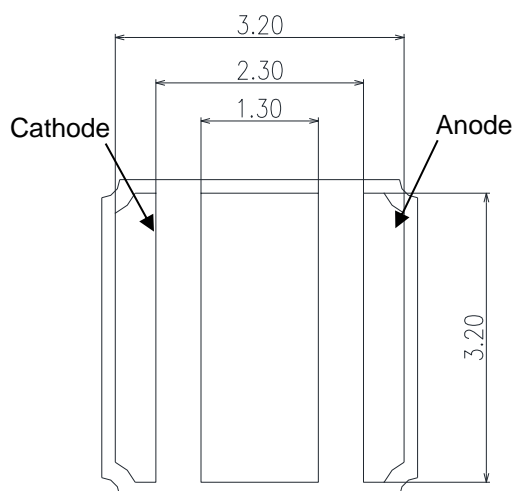


Outline dimensions

Top View



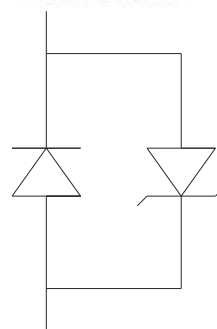
Bottom View



Side View



Circuit



Notes :

- [1] All dimensions are in millimeters.
- [2] Scale : none
- [3] Undefined tolerance is $\pm 0.2\text{mm}$

LED COLOR

1-1 Electro-Optical characteristics at 20mA

(T_a=25°C, RH=30%)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Current	I _F			20	30	mA
Forward Voltage ^[4]	V _F	I _F = 20mA	5.0	6.0	7.0	V
Radiant Flux ^[2]	Φ _e ^[3]	I _F = 20mA	1.0	1.8	3.0	mW
Peak Wavelength ^[1]	λ _p	I _F = 20mA	270	275	280	nm
Viewing Angle	2 θ _{1/2}	I _F = 20mA		120		deg.
Spectrum Half Width	Δ λ	I _F = 20mA		11		nm
Thermal Resistance	R _{θ_{J-b}} ^[5]	I _F = 20mA		26.6		°C /W

1-2 Absolute Maximum Ratings

Parameter	Symbol	Absolute maximum Rating	Unit
Forward Current	I _F	30	mA
Power Dissipation	P _D	200	mW
Operating Temperature	T _{opr}	-30 ~ +60	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C

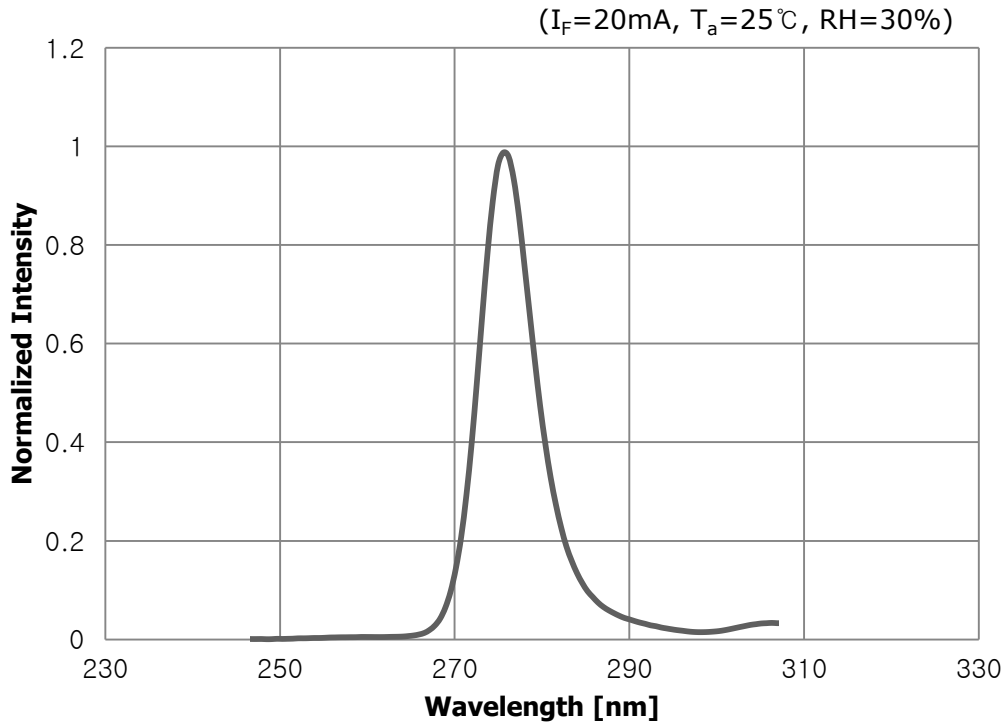
Notes :

1. Peak Wavelength Measurement tolerance : ±3nm
2. Radiant Flux Measurement tolerance : ± 10%
3. Φ_e is the Total Radiant Flux as measured with an integrated sphere.
4. Forward Voltage Measurement tolerance : ±3%
5. R_{θ_{J-b}} is the thermal resistance between chip junction to PCB board bottom.
The PCB is made of aluminium and the size of PCB is 3.5mm by 3.5mm

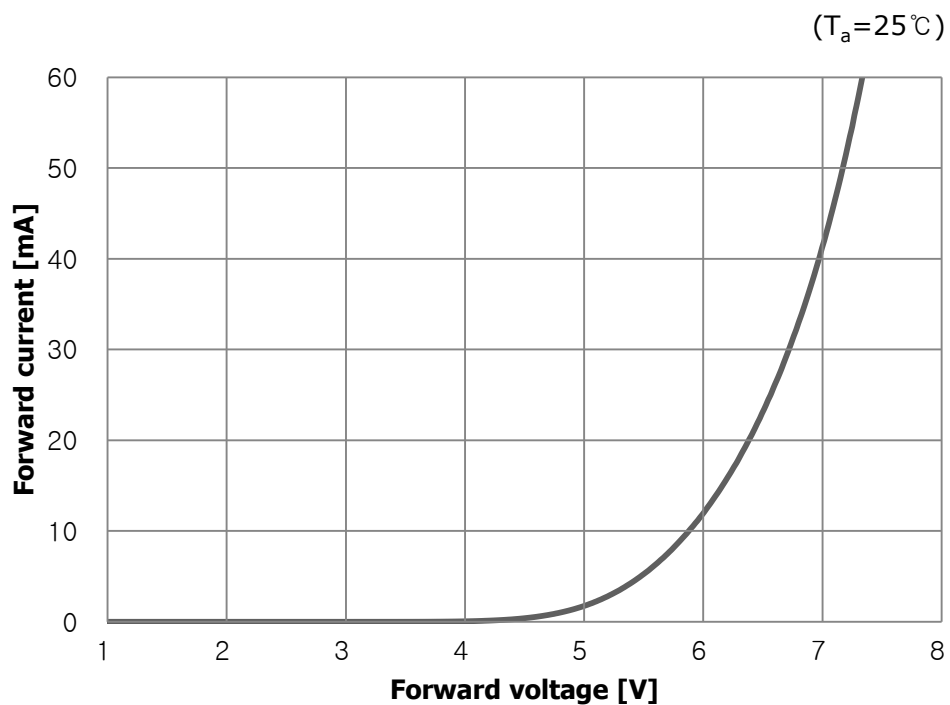
LED COLOR

Characteristic Diagrams

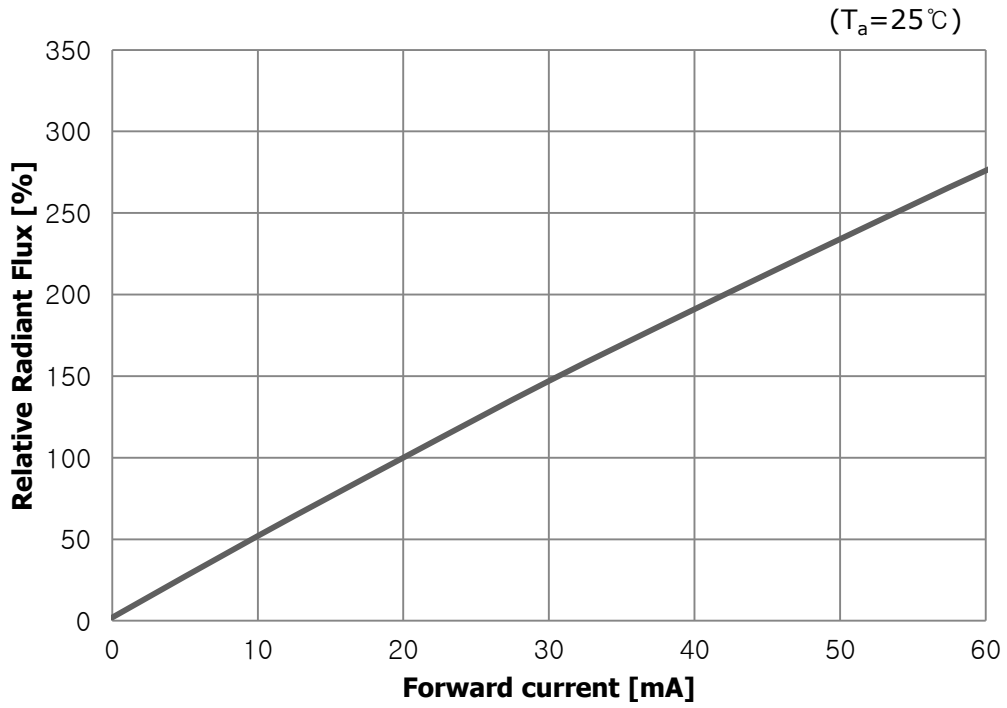
1. Spectral Power Distribution



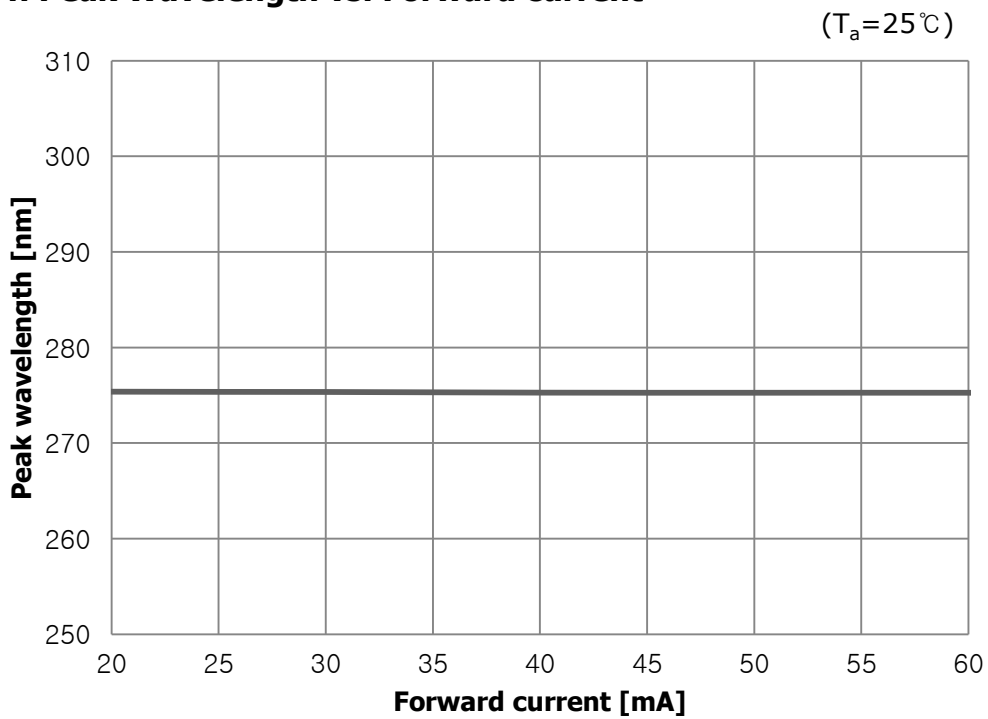
2. Forward current vs. Forward Voltage



3. Relative Radiant Flux vs. Forward Current

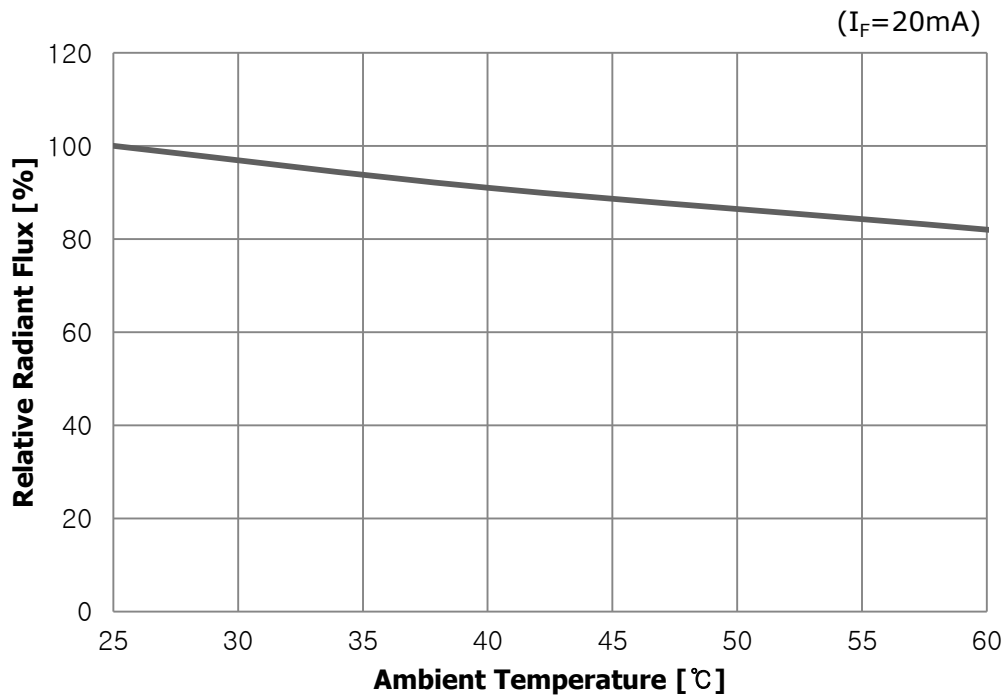


4. Peak Wavelength vs. Forward current

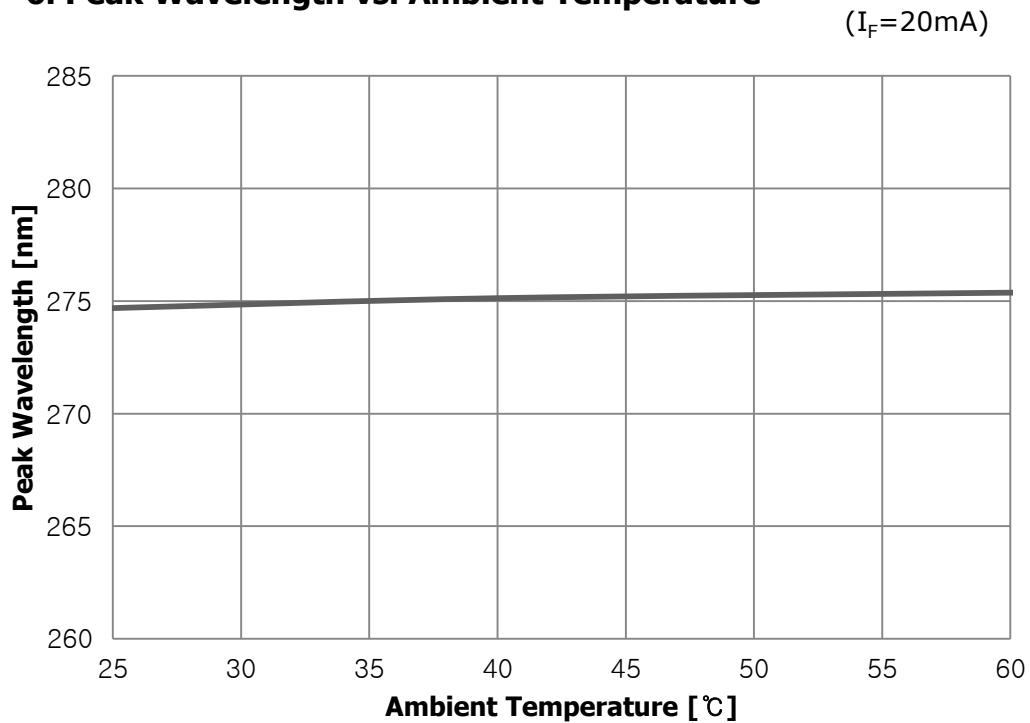


LED COLOR

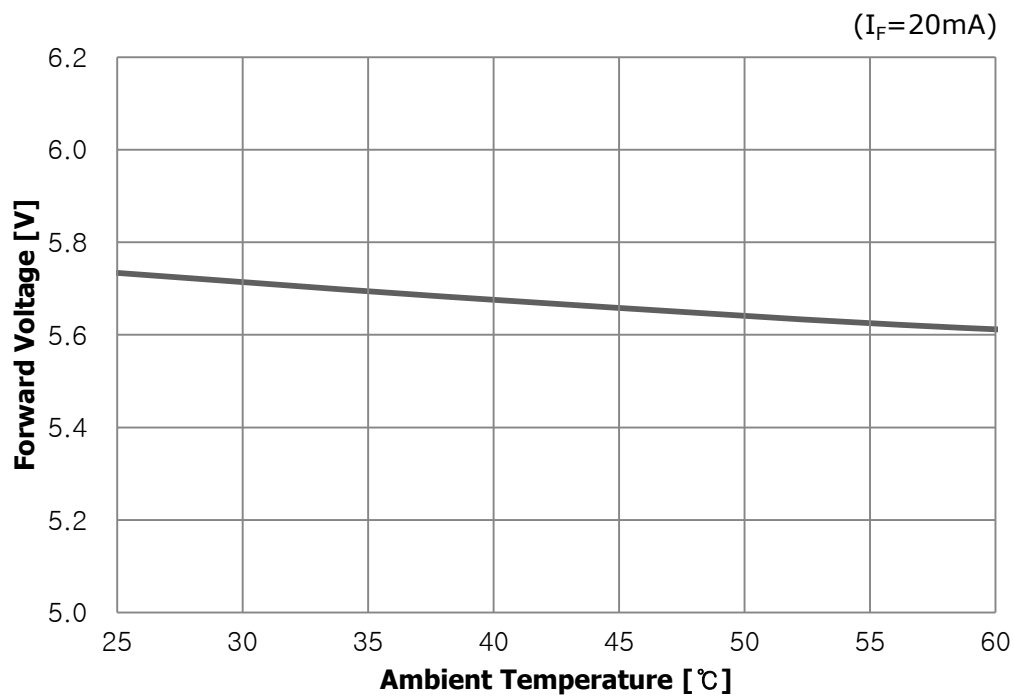
5. Relative Radiant Flux vs. Ambient Temperature



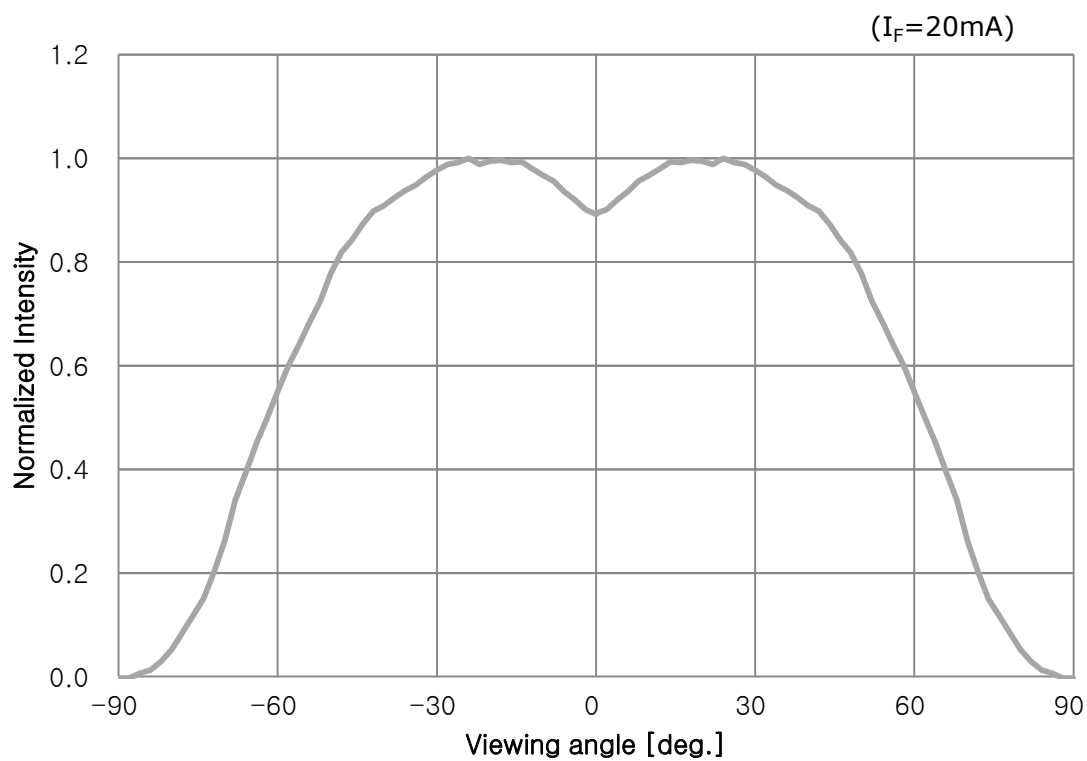
6. Peak Wavelength vs. Ambient Temperature



7. Forward Voltage vs. Ambient Temperature

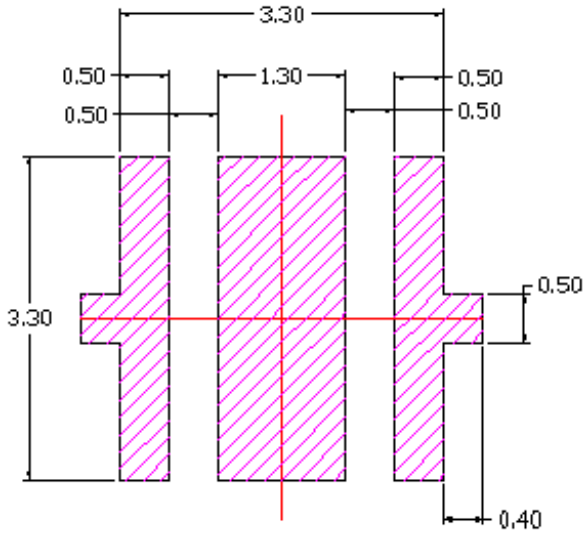


8. Radiant Pattern

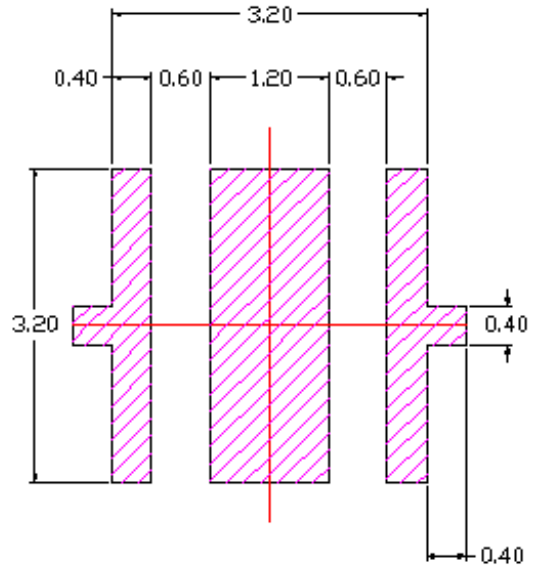


LED COLOR

Recommended solder pad



Recommended PCB Solder Pad



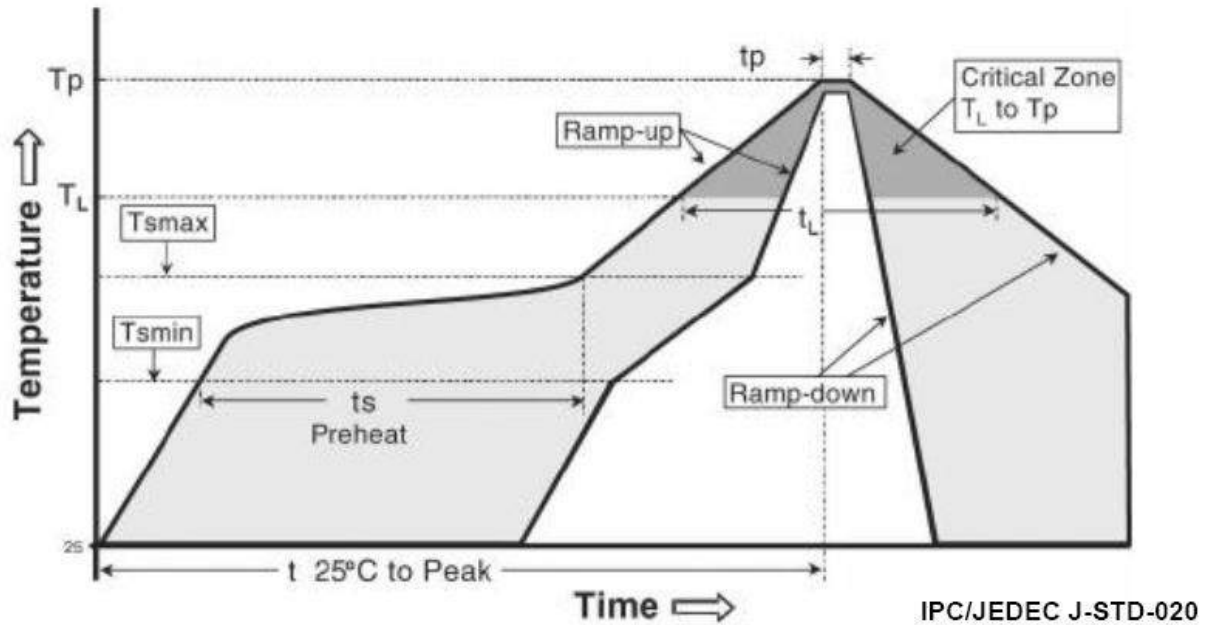
Recommended Stencil Pattern

Notes :

- [1] All dimensions are in millimeters.
- [2] Scale : none
- [3] This drawing without tolerances is for reference only

LED COLOR

Reflow Soldering Profile



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate (Ts_max to Tp)	3° C/second max.	3° C/second max.
Preheat		
- Temperature Min (Ts_min)	100 °C	150 °C
- Temperature Max (Ts_max)	150 °C	200 °C
- Time (Ts_min to Ts_max) (ts)	60-120 seconds	60-180 seconds
Time maintained above:		
- Temperature (TL)	183 °C	217 °C
- Time (tL)	60-150 seconds	60-150 seconds
Peak Temperature (Tp)	215°C	260°C
Time within 5°C of actual Peak Temperature (t)2	10-30 seconds	20-40 seconds
Ramp-down Rate	6 °C/second max.	6 °C/second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.

* Caution

1. Reflow soldering should not be done more than one time.
2. Repairs should not be done after the LEDs have been soldered. When repair is unavoidable, suitable tools must be used.
3. Die slug is to be soldered.
4. When soldering, do not put stress on the LEDs during heating.
5. After soldering, do not warp the circuit board.
6. Recommend to use a convection type reflow machine with 7 ~ 8 zones.

LED COLOR

Precaution for use

1) Storage

- To avoid moisture penetration, we recommend storing UV LEDs in a dry box with a desiccant. The recommended temperature and Relative humidity are between 5°C and 30°C and below 50% respectively.
- LEDs must be stored properly to maintain the device. If the LEDs are stored for 3 months or more after being shipped from Tianhui, a sealed container with a nitrogen atmosphere should be used for storage.
- Replace the remained LEDs into the moisture-proof bag and reseal the bag after work to avoid those LEDs being exposed to moisture. Prolonged exposure to moisture can adversely affect the proper functioning of the LEDs.
- If the package has been opened more than 168hr(MSL_3) or the color of the desiccant changes, components should be dried for 10-12hr at 60±5°C
- The conditions of resealing are as follows
 - Temperature is 5 to 40°C and Relative humidity is less than 30%

2) Handling Precautions

- VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor them when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues.
- In case of attaching LEDs, do not use adhesives that outgas organic vapor.
- Soldering should be done as soon as possible after opening the moisture-proof bag.
- Do not rapidly cool device after soldering.
- Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering.
- Components should not be mounted on warped (non coplanar) portion of PCB.
- The UV LED is encapsulated with a glass lens for the highest flux efficiency. So it needs to be handled carefully as below
 - Avoid touching glass lens parts especially with sharp tools such as pincettes(Tweezers)
 - Avoid leaving fingerprints on glass lens parts.
 - When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that excessive mechanical pressure on the surface of the resin must be prevented.



LED COLOR

3) Safety for eyes and skin

- The Products emit high intensity ultraviolet light which can make your eyes and skin harmful, So do not look directly into the UV light and wear protective equipment during operation.

4) Cleaning

- This device is not allowed to be used in any type of fluid such as water, oil, organic solvent , etc.

5) Others

- The appearance and specifications of the product may be modified for improvement without notice.
- When the LEDs are in operation the maximum current should be decided after measuring the package temperature.
- The driving circuit must be designed to allow forward voltage only when it is ON or OFF. If the reverse voltage is applied to LED, migration can be generated resulting in LED damage.
- Do not handle this product with acid or sulfur material in sealed space.

6) 100% RoHS compliant

- NO Lead, Mercury, Hexavalent Chromium, Polybrominated Biphenyl, Polybrominated Biphenyl Ethers.

7) 100% CE compliant

8) 100% UL compliant

