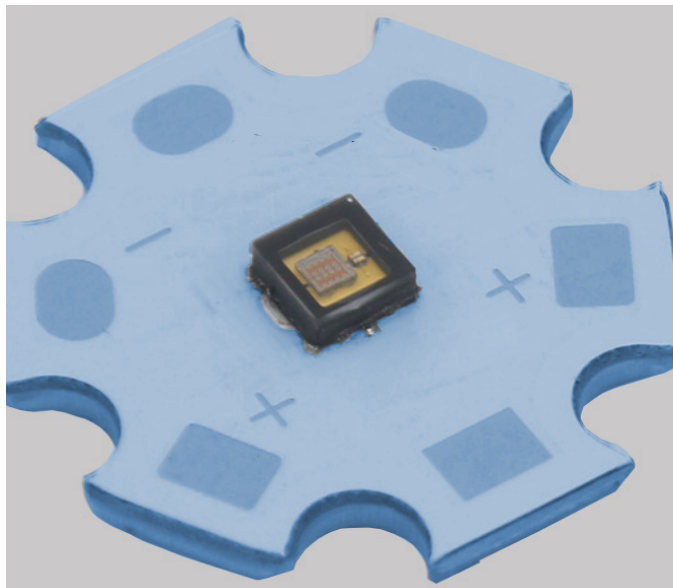
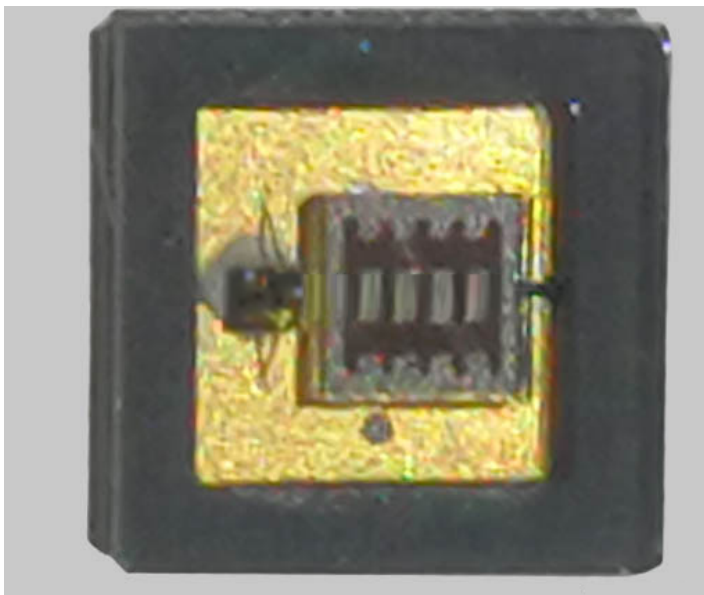
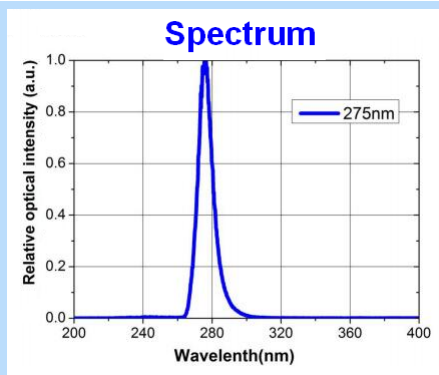


# E275-10 UVC LED



## SPECIFICATIONS

- **Options:** E275-10 (LED only) , E275-10-S (soldered to star board)
- **Package:** 3535
- **Peak Wavelength:** 270-280 nm
- **Radiant Flux:** 10-18 mW
- **Forward Voltage:** 6.0-7.0 V
- **Spectrum Half Width:** 10-12 nm
- **View Angle:** 130
- **Optical Output Power Grade at 7V:** 100mA -8mW, 160mA-16 mW, 180mA-18mW Constant Current
- **Rating:** T=25°C, IF=100mA
- **Life Hours:** 10,000



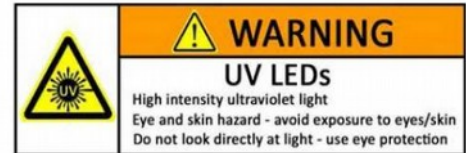
## NOTES FOR UVC-LED 275NM

- A.)** Do not touch the LED, contact will deposit oils that effect the normal operation/life.
- B.)** Power: Reversing polarity may damage the device, confirm the positive and negative,
- C.)** Strictly operate in accordance with electrical parameters, higher voltage will cause damage/degradation.
- D.)** Optical Hazard Risk: Avoid exposure to skin and eyes.
- E.)** Heat Sink Required: Use a 1.6 thick 20 mm copper based heat sink or better.
- F.)** Power supply is not included



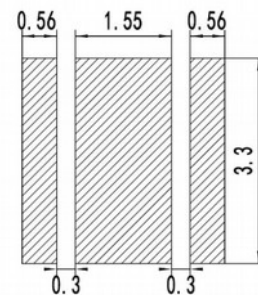
E275-10  
 275 nm UVC LED  
 Type: Ceramic Package SMD 3535  
 Power Rating: 10-18 mW

1. Warnings:  
 ALWAYS WEAR GLOVES, 100% UV BLOCKING EYE GOGGLES AND PROTECTIVE GARMENTS DURING USE.



UV Radiation Hazard: UV LEDs emit ultraviolet light which is potentially harmful to both skin and eyes. Avoid both direct and reflected exposure to UV LEDs when lights are powered on. Always wear skin and eye protection. Do not look directly at UV LED or reflective surfaces during use. UV light is invisible to the human eye, use extra caution to be certain UV LED is powered off before approaching.

Heat Warning: UV LED's require heat dissipation during operation to assure proper operating temperature  $\leq 50^{\circ}$ . Failure to properly apply heat management will cause a reduction in life and output as well as instantaneous or premature failure. LED lifetime will decrease as temperature and current increase which will accelerate deterioration.



Soldering Warning: Reflow soldering is recommended.

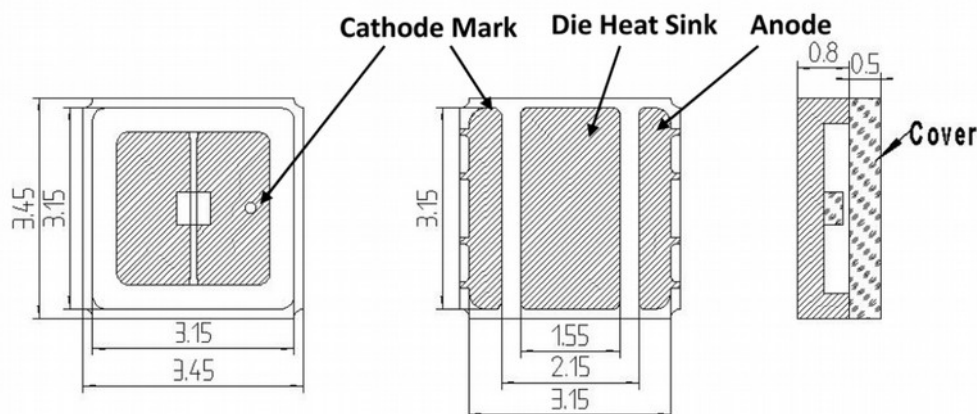
Max Temperature is  $170-180^{\circ}\text{C}$ .

Max Time: 50-80 sec above  $180^{\circ}\text{C}$ .

Recommended Pad Size in mm: see image

Low temperature tin ( SnBi ) solder is recommended.

2. Dimensions in mm. Tolerance  $\pm 0.2$  mm



3. Operating Conditions: Failure to operate within the specified conditions will effect the reliability and cause permanent damage:

Storage Temperature: -10 to 100°C

Max Soldering Temperature: 170 to 180°C

Operating Temperature: -30 to 60°C

4. Parameters: TA= 25°C, IF=100 mA (Constant Current)

Options: E275-10 (LED only) , E275-10-S (soldered to star board)

Package: 3535

Peak Wavelength: 270-280nm

Radiant Flux: 10-18 mW

Forward Voltage: 6-7V, 8V Max

Spectrum Half Width: 10-12 nm, 14 nm Max

View Angle: 120 - 130°

Optical Output Power Grade at 7V/ Constant current: 100mA -8mW, 160mA-16 mW, 180mA-18mW

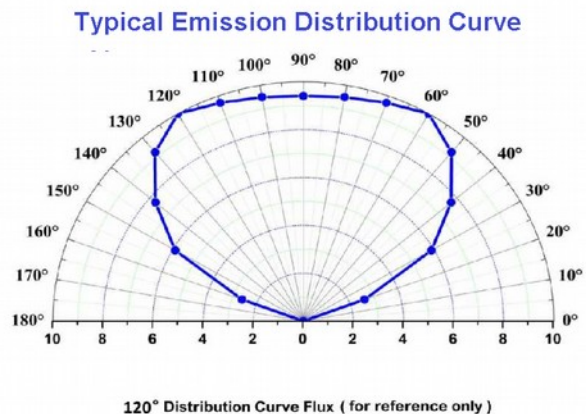
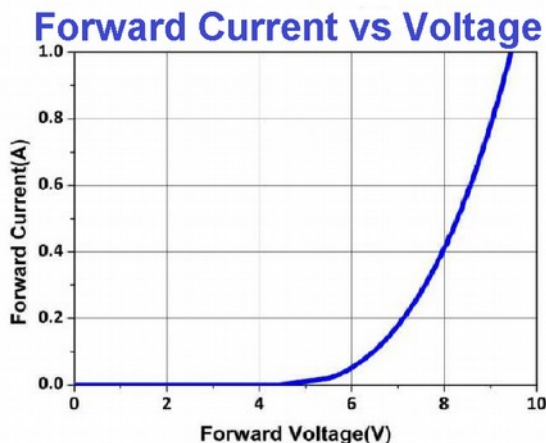
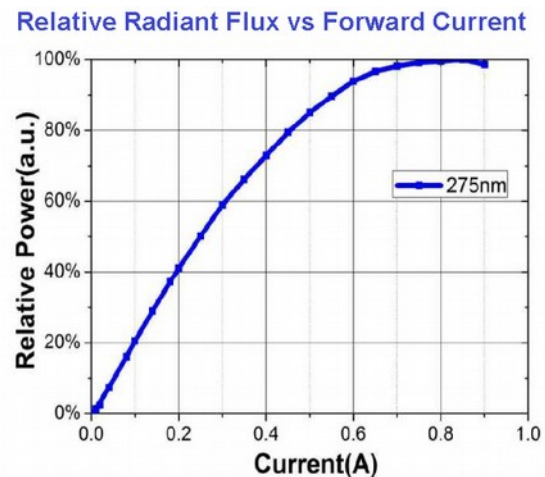
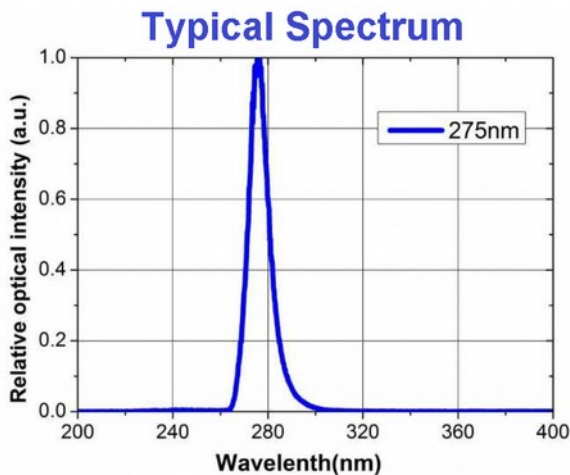
Uncertainties:

Optical power +/- 10%

Voltage measurement tolerance: +/- 0.1V

Pulsed Operation: 1 KHz cycle- 5%, Max current 300mA

5. Typical Curves:



## 6. Installation and Handling

Storage: LEDs should be kept at 10 to 50°C and 30 to 65% RH (Relative Humidity). Hermetically sealing is recommended, reseal after opening to prevent oxidation.

### Handling:

Avoid touching the LED with bare hands. Use anti static gloves or finger cots when handling LEDs. Use tweezers to hold/place the LED.

Working surface should be clean, and well grounded. Include proper anti static protection.

Anti-static strap must be worn during handling.

Avoid contact with any skin surface

All equipment must be properly grounded.

LED should be soldered within 24 hours of removal from packaging.

### Soldering:

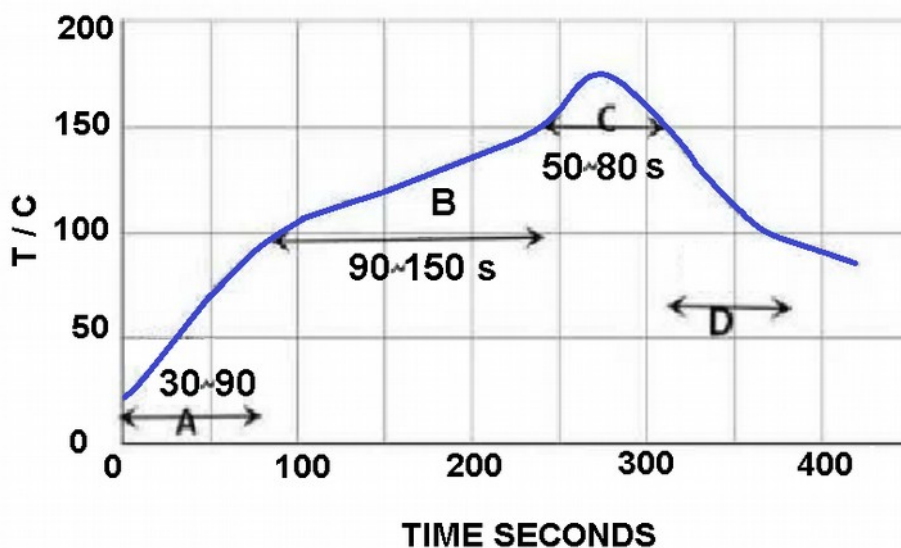
Reflow soldering is recommended. See temperature curve recommendations below

A. Preheat: Up to 90 seconds

B. Soak: 110-130°C

C. Reflow: Max. Temp. 170-180°C max time 50-80 s above 138°C

D. Cooling Rate:  $< 4^{\circ}\text{C} / \text{s}$



## 7: Contact Information: International Light Technologies

10 Technology Drive, Peabody, MA 01960

Tel 978 818 6180, Fax 978 818 6181

Email [ilsales@intl-lighttech.com](mailto:ilsales@intl-lighttech.com)

Website: <https://www.intl-lighttech.com/applications/uv-leds>

## 8. LM-80 Data

|   |   |                           |           |
|---|---|---------------------------|-----------|
| Test content  | TY275S35C Series Life Test                                    |                           |           |
| Sample No.  | Y00035  |                           |           |
| Sample Quantity.  | 5   |                           |           |
| Encapsulation form  | Ceramic SMD3535 package<br>with aluminum substrate            |                           |           |
| Test Conditions   | Ambient<br>temperature<br>/°C                                 | environment<br>humidity/% | Current/A |
| Class 10000<br>Purification<br>Workshop   | 25±3°C  | 45±5%                     | 0.1A      |
| Test Time   | Starting from 2016/9, still continuing                        |                           |           |
| Testing Standard  | Q/0212 TYD001—2015, LED life aging operation<br>guidance      |                           |           |
| Test equipment name   | High Precision Fast Spectrometer Radiometer                   |                           |           |
| Name of aging<br>equipment  | High voltage constant current deep ultraviolet<br>aging table |                           |           |
| The test sample must have excellent heat dissipation conditions,<br>such as welding on a thermal lining with excellent heat<br>dissipation. |   |                           |           |
| 本测试样品为焊接在铝基板上进行的老化测试。<br>This test sample is an aging test welded<br>on an aluminum substrate.  |   |                           |           |

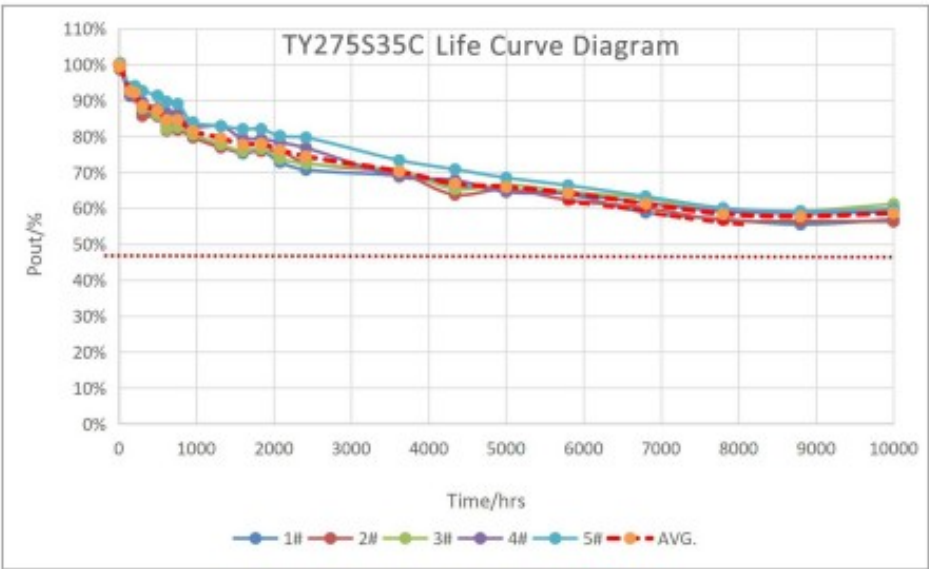
### Test Methods:

1: The packaging form of the selected product is tested for aging under the normal working current of the product.

2: Integral sphere test is performed on the product at the early stage of aging as the original value.

3: From time to time, conduct an integrating sphere test on the products in the aging process, and calculate the power attenuation to form a product life curve.

Life Curve Diagram



Test Result:

The life of this batch product reaches L50 $\geq$ 10000H.

|                |            |
|----------------|------------|
| testing time   | 2019/02/23 |
| test personnel | 测试员        |
| Auditor        | 潘兆花        |