

LED275J



Description

Thorlabs' LED275J Optan® UV LED, which is manufactured by Crystal IS, comes in a hermetically sealed TO-39 package with an integrated ball lens. With an output power exceeding 1 mW and a viewing half angle of 7.5°, this LED is well suited for applications including disinfection, forensic analysis, and optical sensing and imaging of biological markers.

Specifications

| Absolute Max Ratings | |
|----------------------------|---------------|
| Specification | Max |
| Reverse Voltage | 1.0 V |
| DC Forward Current | 110 mA |
| Operating Case Temperature | -5 to 55 °C |
| Storage Temperature | -40 to 100 °C |



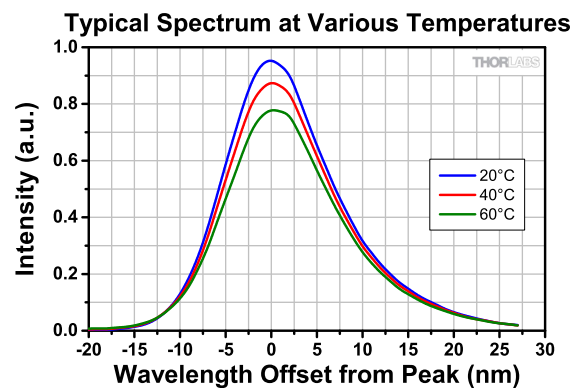
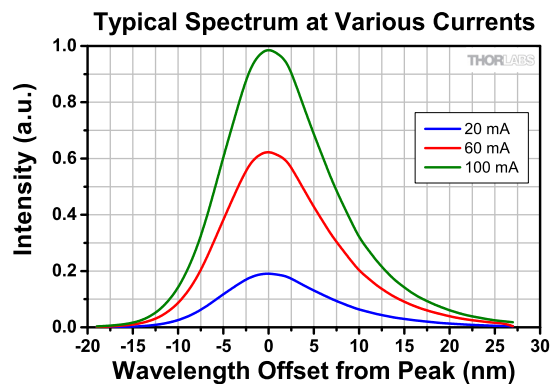
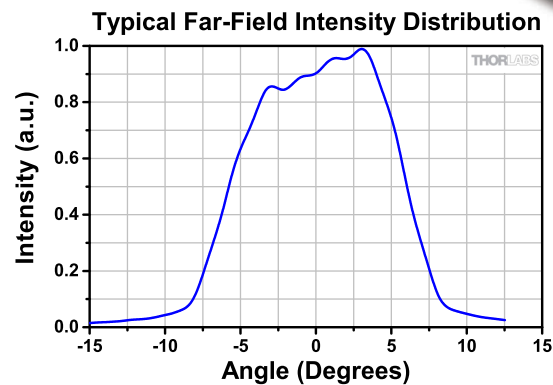
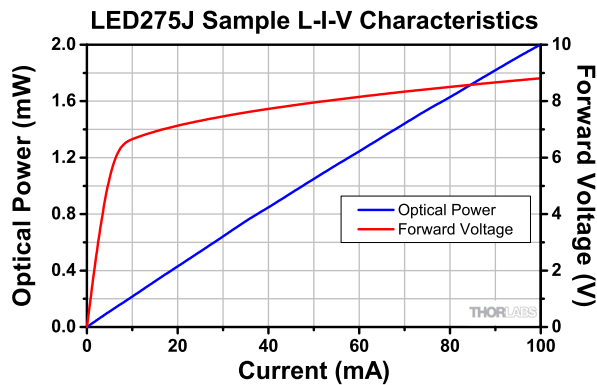
| Specifications | | | |
|--------------------------------------|----------|----------|--------|
| | Min | Typical | Max |
| Power Dissipation | - | - | 1 W |
| Operating Current (Continuous) | - | - | 100 mA |
| Forward Voltage at 100 mA | - | 8 V | 10 V |
| Thermal Resistance, Junction to Case | - | 37 °C/W | - |
| Optical Output Power at 100 mA | 1 mW | - | 2 mW |
| Viewing Half Angle | - | 7.5° | - |
| Peak Wavelength | 270 nm | 275 nm | 280 nm |
| Bandwidth (FWHM) | - | 12 nm | - |
| Lifetime at 25 °C, 20mA | - | 8000 hrs | - |
| Lifetime at 25 °C, 100 mA | 1000 hrs | 3000 hrs | - |

Note: Unless otherwise specified, all specifications are for operation at 25 °C.

| Soldering Specifications | |
|--------------------------|--|
| | Conditions |
| Dip Soldering | Pre-Heat Backside of PCB at 90 °C Maximum for 60 Seconds or Less; Solder Bath at 260 °C Maximum for 5 Seconds or Less |
| Hand Soldering | Soldering iron tip at 300 °C maximum for 3 seconds or less |

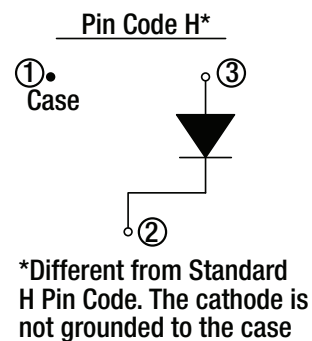
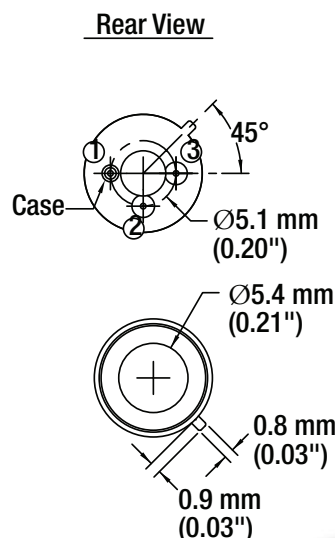
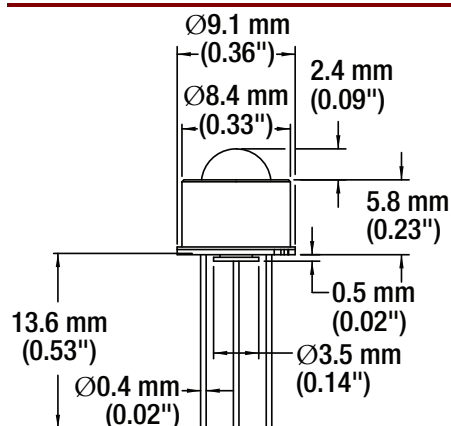
| Cleaning Solvents | | | | | | |
|-------------------|---------------|-------------------|----------------|---------|-------------------|-----|
| Solvent | Ethyl Alcohol | Isopropyl Alcohol | Propyl Alcohol | Acetone | Trichloroethylene | MKS |
| Approved | Yes | Yes | Yes | No | No | No |

Typical Performance Plots



Note: The first three graphs show measurements that were made at a case temperature of 25 °C. The last graph shows measurements of the spectrum of an LED held at various temperatures when driven at 100 mA. The far field intensity distribution was taken 25 mm from the LED.

Drawing



Precautions and Warranty Information

These products are ESD (electro static discharge) sensitive and as a result are not covered under warranty. In order to ensure the proper functioning of an LED care must be given to maintain the highest standards of compliance to the maximum electrical specifications when handling such devices. The LEDs are particularly sensitive to any voltage that exceeds the absolute maximum ratings of the product. Any applied voltage in excess of the maximum specification will cause damage and possible complete failure to the product. The user must use handling procedures that prevent any electro static discharges or other voltage surges when handling or using these devices.

During operation, the LED emits high intensity ultraviolet (UV) light, which is harmful to skin and eyes. UV light is hazardous to skin and may cause cancer. Avoid exposure to UV light when LED is operational. Precautions must be taken to avoid looking directly at the UV light without the use of UV light protective glasses. Do not look directly at the front of the LED or at the LED's lens when LED is operational.

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- 2. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system or to affect its safety or effectiveness.*
- 3. The Thorlabs products described in this document are not intended nor warranted for usage in Military Applications.*