



The Summit™ NL-QD-Q1yzz-B package (up to 10 bars) and NL-QD-Q1yzz-BS package (up to 19 bars) are conductively cooled stacked diode laser arrays designed to operate at very high temperatures. These stacks are built with diode bars of 60W QCW to 200W QCW.

These diode laser bar arrays benefit from a fully mastered technology and are designed to offer the highest efficiency and most reliable operation at very high junction temperatures.

The packaging has been optimized to reduce the overall thermal resistance. NL-QD-Q1yzz-B and NL-QD-Q1yzz-BS stacks are ideal for applications under severe environmental conditions, such as pumping solid-state lasers for designators and illuminators. These compact and rugged designs are well suited to defense and space applications requiring small footprint and high reliability.

Features

- Highest Efficiency
- Highest Temperature Endurance
- Shock and Vibration Rugged
- Tested for Space Applications
- Low Thermal Resistance
- Case Temperature up to 75°C

Applications

- Target Designation
- Ranging
- LIDAR
- Space Environments
- Multi-Spectral Imaging
- Medical
- Ignition
- Mapping

Typical Device Performance

| Package | | NL-QD-Q1yzz-B | NL-QD-Q1yzz-BS | |
|--------------------------------|--------|-------------------|----------------|--------------------|
| Parameters | | | | |
| Number of Diode Bars | | zz = 2 to 10 | | zz = 10 to 19 |
| Pitch between Diode Bars | µm | 400 | | 400 |
| Emitting Area | mmxmm | 10 x 3.6(10 Bars) | | 10 x 7.2 (19 Bars) |
| QCW Output Power per Diode Bar | Watt | 60 | 80 | 100 |
| Threshold Current | Amp. | 19 | 19 | 19 |
| Operating Current | Amp. | 70 | 88 | 105 |
| Operating Current (Maximum) | Amp. | 75 | 97 | 120 |
| Operating Voltage | Volt | < 2 / Bar | | < 2 / Bar |
| Total Efficiency | % | 48 | | 48 |
| Total Efficiency (Minimum) | % | 42 | | 42 |
| Beam Divergence (FWHM) | Degree | 10 x 40 | | 10 x 40 |

Variation of wavelength is approximately 0.26 to 0.3 nm/°C.

Standard wavelength is 808nm.

Spectral width is ≤ 4 nm FWHM.

Tolerance on wavelength is +/- 4nm.

Other wavelengths 9xx nm available.

Possibility of pitch between diode bars of 500 µm

Specifications are for nominal lifetime 5 10⁸ pulses (for 200µs pulse width).

Operating at higher power or higher temperature will accelerate component aging, increase threshold current, and decrease slope efficiency.

CFR Regulation

These components do not comply with the federal regulation (Title 21 CFR, Chapter 1, Subchapter J) as administered by the Center for Device and Radiological Health. Purchaser acknowledges that their products must comply with these regulations before they can be sold to an end-user.



Notice

nLIGHT continually improves its products to provide our customers with outstanding quality and reliability. nLIGHT may make changes to specifications and product descriptions at any time, without notice. In addition, nLIGHT offers a limited warranty to ensure customer satisfaction. For complete details, please contact your nLIGHT sales representative.

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Package Dimensions

'B' Package

'BS' Package

AVOID EXPOSURE. LASER RADIATION IS EMITTED FROM THIS APERTURE

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