Summit™ QCW Package Series – B Package

The Summit™ NL-QD-Q1yzz-B package is a high power diode laser source. The product is based on up to 10 highly efficient 1cm linear bar arrays that are assembled in a stack operating in Quasi-CW mode.

While 'zz' denotes the number of bars in the stack, the 'y' in NL-QD-Q1yzz-B characterizes the optical power of each bar. For y = 2, 3, 4, 5, 6, and 7, peak optical power per diode bar is 60W, 80W, 100W, 125W, 150W and 200W QCW, respectively.

The robust processes used to manufacture these diode lasers lead to longer lifetime and improved reliability. The NL-QD-Q1yzz-B stacked array is therefore ideal for demanding applications such as pumping solid-state lasers in illuminators and designators, for example. The compact and rugged design is capable of withstanding severe shock and vibration, making it well suited to defense and space applications where small footprint and high reliabity are required.

Features

- Highest Efficiency
- Show and Vibration Rugged
- Tested for Space Applications
- Low Thermal Resistance

Applications

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

Proven Performance

Typical Device Performance

Package		NL-QD-Q1210-B	NL-QD-Q1310-B	NL-QD-Q1410-B	NL-QD-Q1510-B	NL-QD-Q1610-B
Parameters						
QCW Output Power	Watt	600	800	1000	1250	1500
Energy Per Pulse	mJ	120	160	200	250	300
Emitting Area	mm x mm	10 x 3.6	10 x 3.6	10 x 3.6	10 x 3.6	10 x 3.6
Peak Wavelength	nm	808	808	808	808	808
Operating Current (Typical)	Amp.	66	84	100	120	140
Operating Current (Maximum)	Amp.	74	95	115	135	160
Operating Voltage	Volt	< 20	< 20	< 20	< 20	< 20
Total Efficiency (Typical)	%	50	52	53	53	52
Total Efficiency (Minimum)	%	43	44	44	44	44
Beam Divergence (FWHM)	Degree	10 x 40	10 x 40	10 x 40	10 x 40	10 x 40
Spectral Width (FWHM)	nm	< 3	< 3	< 3	< 3	< 3

Standard pitch between diode bars: 400µm (possibility of 500µm).
Tolerance on wavelength is +/- 3nm.
Standard variation of wavelength with temperature: □□/□T ~0.26 nm/°C.
Other wavelength selections are available in the range of 9xx nm.
Specifications are for nominal lifetime 10^9 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.

Package Dimensions