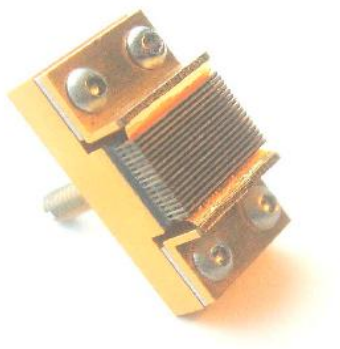
Summit™ QCW Package Series – G Package High Temperature Stacked Array



The Summit™ NL-QD-Q1yzz-G package is a conductively cooled diode laser stack designed to operate at very high temperatures and high QCW optical power. These stacks are built with diode bars of 60W QCW to 200W QCW.

This diode laser bar array benefits from a fully mastered technology and is designed to offer the highest efficiency and most reliable operation at very high junction temperatures.

The packaging and heat exchanger have been optimized to reduce the overall thermal resistance. So, NL-QD-Q1yzz-G stacks are ideal for applications under severe environmental conditions, such as pumping solid-state lasers for designators and illuminators. This compact and rugged design is 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
- Rear Mount Stud

Applications

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

Proven Performance

Typical Device Performance

Package		NL-QD-Q1yzz-G			
Parameters					
Number of Diode Bars per Stack		zz = 5 to 17			
Pitch between Diode Bars	µm	400			
Emitting Area	mm x mm	(zz – 1)* 0.4			
QCW Output Power per Diode Bar	Watt	60	80	100	150
QCW Optical Power	Watt	zz * 60	zz * 80	zz * 100	zz * 150
Operating Current	Amp.	70	88	105	150
Operating Current (Maximum)	Amp.	75	97	120	165
Operating Voltage	Volt	< 2 / Bar			
Total Efficiency	%	50			
Total Efficiency (Minimum)	%	42			
Beam Divergence (FWHM)	Degree	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 +/- 3nm.
Other wavelengths 9xx nm available.
Possibility of pitch between diode bars of 500 µm
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