

Dual QCW Linear Stacked Array

QD-Q1yzz-L2 QD-Q1yzz-Zn

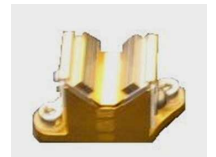
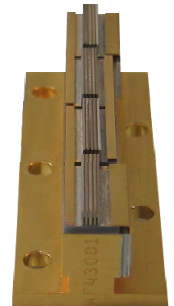
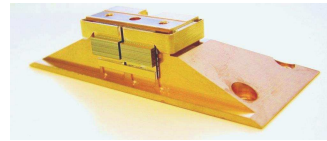
DESCRIPTION

QD-Q1yzz-L2 is a conductively cooled dual laser diode stacked array designed for a very compact association of stacks with up to 12 diode bars each. These stacks are biased in series, with a reduced space between them. For specific design such as 3 or 4 even more stacks in //, use the letter Z (n been the number of stacks from 2 to 25).

The laser diode bar arrays benefit from a fully mastered technology, with appropriate design for improved efficiency and reliable operation. Assembly, using AuSn hard solder technology, has been optimized to reduce the overall thermal resistance.

Custom assembly is also proposed to package, with our 'full soldered' technology, different number of stacks on the same heat-sink of any proprietary design. This allows building compact and complex specific pumping heads such as V stack.

These stacks are ideal for pumping rods or slab solid state lasers for a broad range of aerospace, defence, industrial and space application.



MAIN FEATURES

- QCW operation
- Highly compact design
- Possibility of custom multi-stacks design's
- Wavelengths: 808nm, 9xxnm
- Low thermal resistance assembly
- Mechanically robust, shock and vibration qualified

x =	1	2	3	4	5	6	
λ	808	790	830	915	940	980	nm
y =	2	3	4	5	6	7	8
P/bar	60	80	100	125	150	200	300
							400
							W

SPECIFICATIONS (Example)

PARAMETERS @ 25 °C		QD-Qxyzz-L2	Units
Number of Diode bars	zz =	Up to 6 times 12 bars	
Pitch between diode bars		330 to few 1000s	μm
Emission area		Upon packaging	mm^2
QCW Optical Power per Diode Bar		Up to 400	W
QCW Optical Power		Up to 10 000	W
Operating current	@ 100 W / bar	95 Typ. - 115 Max	A
Operating current	@ 200 W / bar	185 Typ. - 215 Max.	A
	@ 400W / bar	370 Typ. - 390 Max	A
Operating voltage		<2V / bar	V
Total efficiency		58% @ 808 nm, 65% @ 940/980 nm	%
Wavelength		790 to 980	nm / °C
Spectral width (FWHM)		3	nm / °C
Beam divergence (FWHM)		8 X 36	deg.

Note :

- Standard Polarisation: TM or TE mode @ 808 nm, TE @ 9xx nm
- Standard tolerance on wavelength is +/- 3nm, +/- 1,5 nm on demand
- Possibility of "custom design's" with array with different number of stacks
- FAC collimation starting from 400 μm pitch
- Specifications are for nominal lifetime > 1. 10⁹ pulses @ +25°C (for 200 μs pulse width)

Quantel Laser Diodes reserves the right to change specifications without prior notice

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	QD-Qxyzz-L2	Units
Pulse width	5000	μs
Maximum duty cycle	3	%
Reverse voltage	3	Volt
Operating temperature	- 40 to + 65	°C
Storage temperature	-55 to +85	°C

Note : Operation at temperature below dew point requests to use dry N2 environment

PACKAGE SPECIFICATIONS

- dimensions are in mm
- standard tolerances are ± 0.2 mm

QD-Q1yzz-L2



This Linear stacked Array "L2" type is an association of two stacks with 2 X 'zz' bars per stack. 'zz' can be 2 to 12 diode bars which gives stacks of 4 to 24 diode bars.

Other configuration are available on demand (4 times 4 bars, 3 times 16 bars,...)

