东隆光电

QCW Stacked Array

QD-Q1y0z-A

QD-Q1y0z-A product is a high optical power laser diode stack operating in Quasi-CW mode. This product is designed with 2 to 5 highly efficient 1cm linear bar arrays that are piled up to form a stack. The 'y' in QD-Q1y0z-A characterises the optical power of each bar. For y = 2, 3, 4, 5 respectively, peak optical power are 360W, 480W, 600W, 900W with power densities from 1.8 to 3kW/cm².

The quality of the process of these laser diodes leads to longer lifetime and improved reliability. So the QD-Q1y0z-A stacked arrays are ideal for different applications: pumping solid state lasers, illuminators...

Assembly in a compact and rugged package allows easy connection to a heat exchanger to get good temperature control.

Features

- 40W CW optical power
- Low divergence
- High reliability
- Conductively cooled package 'S' & 'H' types
- Optional Fast-Axis-Collimating lens
- Wavelengths in the 795nm - 980nm range

SPECIFICATIONS

Case temperature: 25° C **Quasi-continuous mode:** **pulse width = 200µs** **repetition rate = 100Hz**

PARAMETERS		QD-Q1205-A	QD-Q1305-A	QD-Q1405-A	UNITS
QCW output power		300	400	500	Watt
Energy per pulse		60	80	100	mJ
Emitting area		10 x 1.6	10 x 1.6	10 x 1.6	mm x mm
Threshold current		18	18	18	Amp.
Operating current (If)	typical Max.	66 74	84 95	102 115	Amp. Amp.
Operating voltage		<10	<10	<10	Volt
Total efficiency	typical Min.	50 44	50 44	52 44	% %
Beam divergence (FWHM)		10 x 40	10 x 40	10 x 40	degree
Spectral width (FWHM)		< 3.5	< 3.5	< 4	nm

ETSC Technologies Co.,
Tel: 86 27 87170152
86 27 87412681
86 27 87807925
Fax: 86 27 87807133
Web: www.etsc-tech.com

Note:

- Standard pitch between diode bars: 400µm (possibility of 500µm)
- Tolerance on wavelength is +/- 3nm
- Standard variation of wavelength with temperature: $\Delta\lambda/\Delta T$ ~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 ageing, increase threshold current and decrease slope efficiency.

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	QD-Q1205-A	QD-Q1305-A	NE-Q1405-A	UNITS
Reverse voltage	3	3	3	Volt
Operating temperature	+5 to +60	+5 to +60	+5 to +60	°C
Storage temperature	-40 to +85	-40 to +85	-40 to +85	°C

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

PACKAGE SPECIFICATION

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