

## Conduction - cooled 40W CW Diode Bars QD-Cx840-S & QD-Cx840-H

### DESCRIPTION

The QD-Cx840-S & QD-Cx840-H products are based upon highly performing 40W CW Laser Diode Bar Arrays. The Laser Diode structure is multiple emitters spaced on a monolithic 1cm "bar". The bar is mounted with the active zone (P side) towards a conductively cooled submount with low thermal resistance.

The quality quantum well structure and of the process leads to high electrical to optical conversion efficiency and reliability.

The compact and rugged package allows easy connection to an efficient heat exchanger. So the submount temperature can be adjusted to tune the emission wavelength. With this open package the optical beam can be directly used to achieve efficient coupling.

A fast-axis collimation lens (FAC lens, Antireflection coated) can also be assembled to reduce the divergence to 0,5 deg.

This linear bar array is ideal for applications which request high output power like pumping solid state lasers, illuminators, medical therapy, graphic arts, material processing...

### MAIN 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 @ 25°

PARAMETERS		QD-C1840-H QD-C1840-S	QD-C4840-H QD-C4840-S	QD-C5840-H QD-C5840-S	QD-C6840-H QD-C6840-S	UNITS
CW output power		40	40	40	40	Watt
Center wavelength @ nom. P.		808	915	940	980	nm
Threshold current		9	8	8	7	Amp.
Operating current	Typical	43	43	43	43	Amp.
	Max	50	52	52	52	Amp.
Operating voltage		< 2	< 2	< 2	< 2	Volt
Slope Efficiency		1.15	1.10	1.10	1.05	W/A
Total efficiency	Typical	50	50	52	52	%
	Min	45	45	45	45	%
Beam divergence (FWHM)		10 x 38	10 x 38	10 x 38	10 x 38	Degree

#### **Note :**

- Variation of wavelength is approximately 0.25 to 0.3 nm/°C
- Standard tolerance on wavelength is  $\pm 3$ nm @ 808nm and 9xxnm
- Spectral width (FWHM) is  $\leq 3$ nm @ 808nm,  $< 5$ nm @ 9xxnm
- Optional fast-axis collimating lens
- Operating at higher power or higher temperature will accelerate component ageing, increase threshold current and decrease slope efficiency.

Quantel reserve the right to change specifications without prior notice

## ABSOLUTE MAXIMUM RATINGS

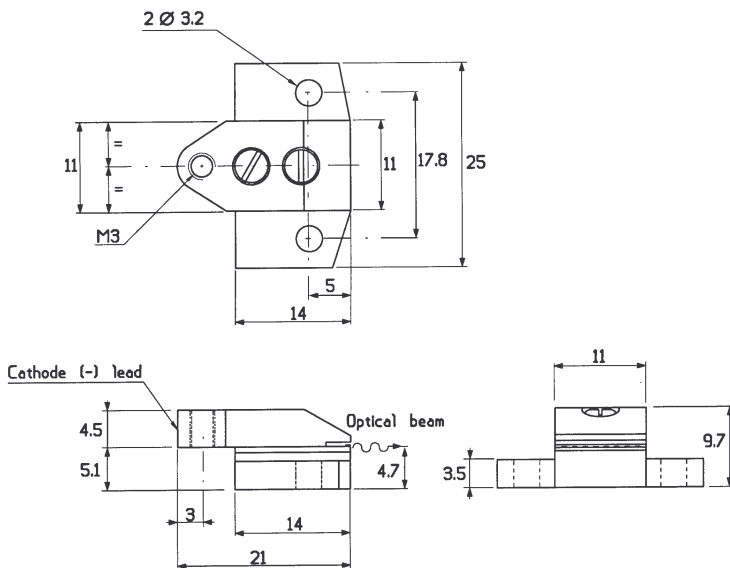
PARAMETERS	QD-Cx840-H QD-Cx840-S	UNITS
Reverse voltage	3	Volt
Operating temperature	+5 to +35	°C
Storage temperature	-40 to +85	°C

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

## PACKAGE SPECIFICATIONS

- dimensions are in mm
- standard tolerances are  $\pm 0.2$  mm [inch]

### “S” package



### “H” package

