

TH-Q44xx-B TH-Q54xx-B TH-Q64xx-B

200W-1200W QUASI-CW STACKED ARRAYS (915nm – 980nm)

DESCRIPTION

The TH-Q44xx-B, TH-Q54xx-B, TH-Q64xx-B products are high optical power laser diodes for quasi-CW operation. The peak optical power is up to 1200W.

These products are based on a quantum well design to realize highly efficient 1cm linear bar arrays. The quality of the process of these laser diodes leads to longer lifetime and improved reliability.

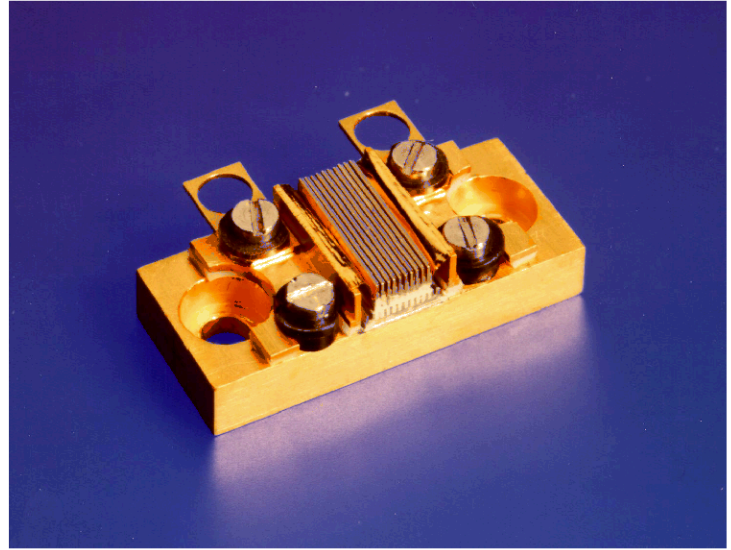
Assembly in a compact and rugged package allows easy connection to a heat exchanger to get good temperature control.

The TH-Q-X4xx-B serie is designed for 2 to 12 linear bar arrays: $2 \leq xx \leq 12$. The following wavelengths are available:

TH-Q-44xx-B for wavelengths around 915 nm

TH-Q-54xx-B for wavelengths around 940 nm

TH-Q-64xx-B for wavelengths around 980 nm



MAIN FEATURES

- 100W peak optical power per diode bar
- Standard QCW operation (200 μ s/100Hz)
- 20 / 500 mJ energy per pulse
- 915 to 980nm wavelength range
- High conversion efficiency
- Highly reproducible MOCVD process
- Very high temperature stability of operation
- Mechanically robust, shock and vibration resistant

Also available with **BS** (up to 20 bars), **G** or **K** package

SPECIFICATIONS

Case temperature: 25 °C

Quasi-continuous mode :200 μ s 100Hz

PARAMETERS	TH-Q5402-B	TH-Q5412-B	UNITS
QCW output power	200	1200	Watt
Energy per pulse	40	240	mJ
Emitting area	10 x 0.6	10 x 4.3	mm x mm
Threshold current, typical max.	14 18	14 18	Amp.
Operating current (If), typical max.	110 120	110 120	Amp.
Operating voltage	< 4.0	< 24	Volt
Total efficiency, typical min.	50 45	50 45	%
$\Delta I_f / (I_f \Delta T)^1$	0.3	0.3	%/K
$\Delta \lambda / \Delta T$	0.3	0.3	nm/K
Spectral width (FWHM)	< 6	< 7	Nm
Beam divergence (FWHM)	10 x 34	10 x 34	Degree

¹ Variation of operating current with temperature

Note :

- Tolerance on wavelength is +/- 5nm (+/- 4nm upon request)
- Spectral width is $\leq 6(7)$ nm FWHM, for pulse width = 200 μ s and ≤ 9 nm FWHM, for pulse width = 5ms

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	TH-Q5402-B	TH-Q5412-B	UNITS
QCW output power	210	1260	Watt
Reverse voltage	3	3	Volt
Operating temperature	+5 to +60	+5 to +60	°C
Storage temperature	-40 to +85	-40 to +85	°C

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

PACKAGE SPECIFICATION :

- Case temperature : 25°C
- dimensions are in mm
- standard tolerances are ± 0.2 mm

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