

TH-Q1201-A1 / TH-Q1301-A1 / TH-Q1401-A1

60W / 80W / 100W QUASI-CW LINEAR BAR ARRAYS

DESCRIPTION

The TH-Q1X01-A1 products are a high optical power laser diodes for quasi-CW operation. The 'X' in TH-Q1X01-A1 characterises the optical power of each bar For X = 2, 3, 4 respectively, peak optical power are 60W, 80W, 100W. 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.

MAIN FEATURES

- 795nm to 860nm
- Liquid cooled package
- High conversion efficiency
- Very high temperature stability of operation
- Mechanically robust, shock and vibration resistant
- Highly reproducible MOCVD process



SPECIFICATIONS

Case temperature : 25 °C

Quasi-continuous mode : pulse width = 200µs
repetition rate = 100Hz

PARAMETERS	TH-Q1201-A1	TH-Q1301-A1	TH-Q1401-A1	UNITS
QCW output power	60	80	100	Watt
Energy per pulse	12	16	20	mJ
Emitting area	10 x 0.001	10 x 0.001	10 x 0.001	mm x mm
Threshold current typical max.	14 18	14 18	14 18	Amp.
Operating current (If) typical max.	65 70	86 94	102 113	Amp.
Operating voltage	<2	<2	<2	Volt
Total efficiency typical min.	49 43	49 43	49 43	%
$\Delta I_f / (I_f \Delta T)$ ¹	0.4	0.4	0.4	%/K
$\Delta \lambda / \Delta T$	0.26	0.26	0.26	nm/K
Beam divergence (FWHM)	10 x 40	10 x 40	10 x 40	degree
Spectral Width (FWHM)	< 3.5	< 3.5	< 4	nm

¹ Variation of operating current If with temperature

Note :

- Standard wavelength is 808nm +/-3nm
- Tolerance on wavelength is +/- 4nm (+/- 3nm upon request)
- **TH-Q1201-A1** can operate at higher duty cycles of over 20% (up to 1kHz) with optical output power up to 80W QCW

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	TH-Q1201-A1	TH-Q1301-A1	TH-Q1401-A1	UNITS
QCW output power	65	85	105	Watt
Reverse voltage	3	3	3	Volt
Operating temperature	+5 to +50	+5 to +50	+5 to +50	°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

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