

TH-Q4401-A1 TH-Q5401-A1 TH-Q6401-A1

100W QUASI-CW LINEAR BAR ARRAYS (915nm - 980nm)

DESCRIPTION

The TH-QX401-A1 products are high optical power laser diodes for quasi-CW operation. The peak optical power is 100W. The X in TH-Q-X401-A1 characterises the wavelength range of the bars:

X = 4 for bars around 915 nm

X = 5 for bars around 940 nm

X = 6 for bars around 980 nm

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

- 100W peak optical power
- Standard QCW operation (200µs/100Hz)
- up to 5 ms pulse width
- 20 / 500 mJ energy per pulse
- High conversion efficiency
- Highly reproducible MOCVD process
- Very high temperature stability of operation
- Mechanically robust, shock and vibration resistant

SPECIFICATIONS

Case temperature: 25 °C

PARAMETERS	TH-QX401-A1	TH-QX401-A1	UNITS
QCW output power	100	100	Watt
Energy per pulse	20	500	mJ
Pulse width	0.20	5	ms
Repetition rate	100	10	Hz
Emitting area	10 x 0.001	10 x 0.001	mm x mm
Threshold current, typical	14	14	Amp.
max	18	18	
Operating current (If), typical	110	115	Amp.
max	120	130	
Operating voltage	< 2.0	< 2.0	Volt
Total efficiency, typical	48	45	%
min.	45	41	
$\Delta I_f / (I_f \Delta T)^1$	0.3	0.3	%/K
$\Delta \lambda / \Delta T$	0.3	0.3	nm/K
Spectral width (FWHM)	≤ 6	≤ 9	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)

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	TH-Q5401-A1	TH-Q5401-A1	UNITS
QCW output power	105	105	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

For further information please contact:

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