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# TH-Q1201-A / TH-Q1301-A / TH-Q1401-A

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

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### DESCRIPTION

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The TH-Q1X01-A products are a high optical power laser diode sources for quasi-CW operation. The 'X' index stands for the type of diode bar: X=2, 3, 4 respectively for 60W, 80W, 100W QCW peak optical power.

These products are based upon MOCVD quantum well design to realize highly efficient 1cm linear bar arrays. The quality of the process of these GaAIAs 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

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- 60W / 80W / 100W peak optical power
- Standard QCW operation (200 $\mu$ s/100Hz)
- 12mJ / 16mJ / 20 mJ energy per pulse
- 795 to 860nm wavelength range
- High conversion efficiency
- Highly reproducible MOCVD process
- GaAIAs quantum well design

**SPECIFICATIONS**

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

PARAMETERS	TH-Q1201-A	TH-Q1231-A	TH-Q1401-A	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	17	20	22	Amp.
Operating current	76	100	120	Amp.
Operating voltage	1.9	2	2.1	Volt
Total efficiency	40 to 46	40 to 46	40 to 46	%
Beam divergence (FWHM)	10 x 40	10 x 40	10 x 40	degree

**Note:**

- Variation of wavelength is approximately 0.26 to 0.3 nm/°C
- Standard wavelength is 808nm
- Tolerance on wavelength is +/- 4nm ( +/- 3nm on request )
- Spectral width is ≤ 3nm FWHM
- Other wavelength selections are available in the range of 795nm to 860nm
- TH-Q1201-A can operate at higher duty cycle, up to 1kHz for 60W QCW.

**ABSOLUTE MAXIMUM RATINGS**

PARAMETERS	TH-Q1201-A	TH-Q1301-A	TH-Q1401-A	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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