

TH-Q1312-AS / TH-Q1410-AS

1 kW QUASI-CW HIGH BRIGHTNESS STACKED ARRAY

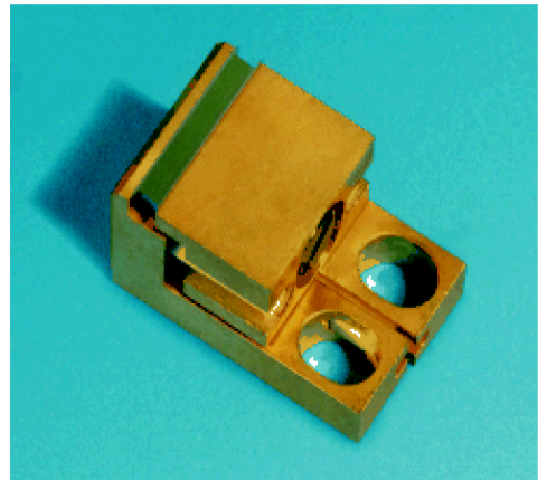
DESCRIPTION

TH-Q1312-AS and TH-Q1410-AS are high brightness optical power laser diode sources.

These products are based upon high packing density of efficient 1cm linear bar arrays which leads to 7 to 9 kW/cm² of optical power density in Quasi-CW mode. The quality of the process of these GaAlAs laser diodes allows longer lifetime and improved reliability.

These 'High Brightness' stacked arrays can be also easily associated with optical concentrator. So, products with optical power density of 35 kW/cm² can be proposed. Such a source is ideal to design solid state lasers with optimized pumping efficiency.

A compact and rugged package assembly allows easy connection to a heat exchanger for a good temperature control.



MAIN FEATURES

- 1000 W peak optical power
- QCW operation (typical 150µs/25Hz)
- Up to 150mJ energy per pulse
- 795 to 860nm wavelength range
- Highly reproducible MOCVD process
- Possibility to design over 35 kW/cm² optical source

SPECIFICATIONS

Case temperature : 25° C

Quasi-continuous mode : pulse width = 150µs
repetition rate = 20 Hz

PARAMETERS		TH-Q1312-AS	TH-Q1410-AS	UNITS
QCW output power		1000	1000	Watt
Energy per pulse		150	150	mJ
Emitting area		9.6 x 1.5	9.6 x 1.2	mm x mm
Threshold current	typ.	14	14	Amp.
	max.	18	18	
Operating current	typ.	90	105	Amp.
	max.	98	115	
Operating voltage		<23	<20	Volt
Total efficiency	typ.	50	50	%
	max.	42	42	
Beam divergence		10 x 40	10 x 40	degree

Note :

- Variation of wavelength is approximately 0.26 to 0.3 nm/°C
- Standard wavelength is 808nm
- Spectral width is ≤ 6nm for TH-Q1312-AS and ≤ 7 nm for TH-Q1410-AS
- Tolerance on wavelength is +/- 3nm
- Other wavelength selections are available in the range of 795nm to 860nm

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- Specifications are for nominal life time 10^9 pulses (for 150 μ s pulse width)

For further information please contact:

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ABSOLUTE MAXIMUM RATINGS

PARAMETERS	TH-Q1312-AS	TH-1410-AS	UNITS
QCW output power	1100	1100	Watt
Pulse width	500	400	µs
Duty cycle	0.5	0.4	%
Reverse voltage	3	3	Volt
Operating temperature	+5 to +35	+5 to +35	°C
Storage temperature	-40 to +85	-40 to + 85	°C

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

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