

ACTIVELY COOLED CW STACK HIGH POWER LASER DIODES

DESCRIPTION

The TH-C1803-M1 product is a 3 bar stack for CW or high average optical power operation. An extremely low thermal resistance is obtained with water cooled micro-channel heat sinks. This leads to a very efficient heat extraction to give stacks with large optical power densities.

The possibility to design modular assembly of diodes bars allows the realisation of specific geometry to adjust the optical beam.

The TH-C1803-M1 product is very convenient for applications which request high CW optical power or which need to operate at high duty cycle: pumping of solid state rod or slabs, medical, material processing,...



MAIN FEATURES

- Up to 150W CW optical output power
- Water cooled package
- High conversion efficiency
- 795-860nm, 915-940-980nm wavelengths

SPECIFICATIONS

Water temperature: 25°C

Fluid conditions : Flow rate 0.4l/min per bar
Pressure 2 - 3 bars

PARAMETERS	TH-C1803-M1	UNITS
CW optical power	40 / bar	Watt
Bar to bar pitch	1.75	mm
Emitting area	10 x 3.5	mm ²
Wavelength	808 / 840	nm
Operating current Typical Max	47 ≤ 55	Amp.
Operating voltage	6	Volt
Total efficiency	42	%
Beam divergence	10 x 35	deg

Need to use desionized water with ion exchanger (resistivity 0.5 to 2 MOhm*cm) and a 20µm particle filter

Note :

- Variation of wavelength is approximately 0.26 to 0.3 nm/°C
- Tolerance on wavelength is ± 3 nm @ 808nm – 840nm and ± 5 nm @ 915nm - 980nm
- Spectral width (FWHM) ≤ 3nm @ 808nm – 840nm and ≤ 5nm @ 915nm - 980nm
- Fast-axis collimating lens to give 1 deg. beam divergence

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	TH-C1803-M1	UNITS
CW output power	42 / bar	Watt
Reverse voltage	3	Volt
Case Operating temperature	+5 to +35	°C
Storage temperature	-30 to +80	°C

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

For further information please contact:

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