


LD-12XX-CoC-4W

High Power Broad-Area Laser Diode on submount



Features:

- InAs/GaAs Quantum Dot based diode laser
- 4W output power
- Available wavelength range 1130-1320nm
- Proprietary mirror coating technology enabling high reliability
- Reliable Au/Sn bonding of chip to composite submount
- RoHS compliance

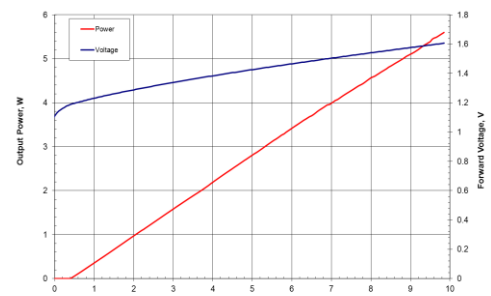
SPECIFICATIONS					
Test conditions: tightly clamped to 25°C heatsink					
Parameters	Symb.	Min.	Typ.	Max.	Unit
Operating output power	P _{out}	4			W
QCW output power (200µs pulse width, 1% duty cycle)	P _{qcw}	10			W
Range of available wavelength	λ	1130		1320	nm
Mean wavelength tolerance				10	nm
Spectral width @ -3dB level at P _{out}	Δλ		8	14	nm
Wavelength temperature tunability	Δλ/ΔT	0.45	0.5	0.65	nm/°C
Threshold current	I _{th}		0.4	0.7	A
Operating current at P _{out}	I _{op}		7.5	8.0	A
Forward voltage at P _{out}	V _f		1.5	1.7	V
Divergence parallel to p-n junction (FWHM)	Θ	4	7	11	deg.
Divergence perpendicular to p-n junction (FWHM)	Θ _⊥	26	33	42	deg.
Aperture size			90 × 1		µm × µm

* I_{op}(Max.) = 10.5A for λ>1280nm

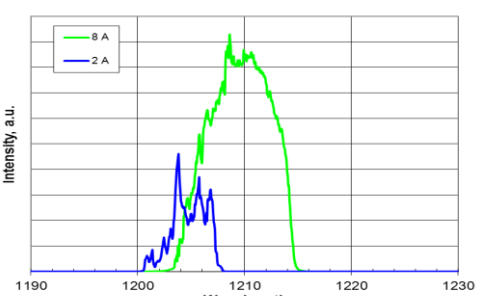
TYPICAL PERFORMANCE for reference only*

Test conditions: soldered to heatsink, CW operation, heatsink temperature 25°C

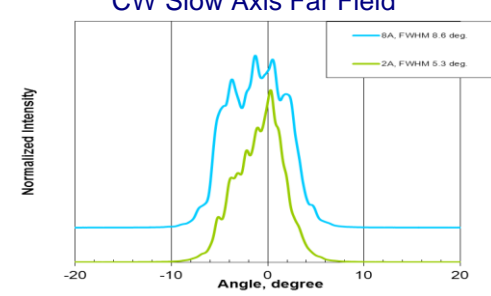
Light-Current-Voltage Characteristics



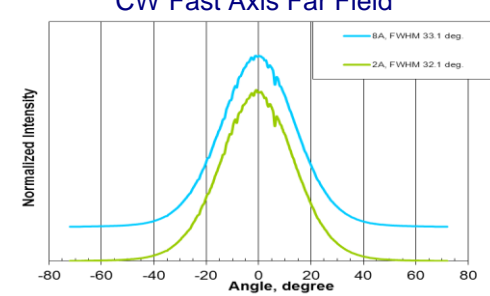
Spectral Characteristics



CW Slow Axis Far Field

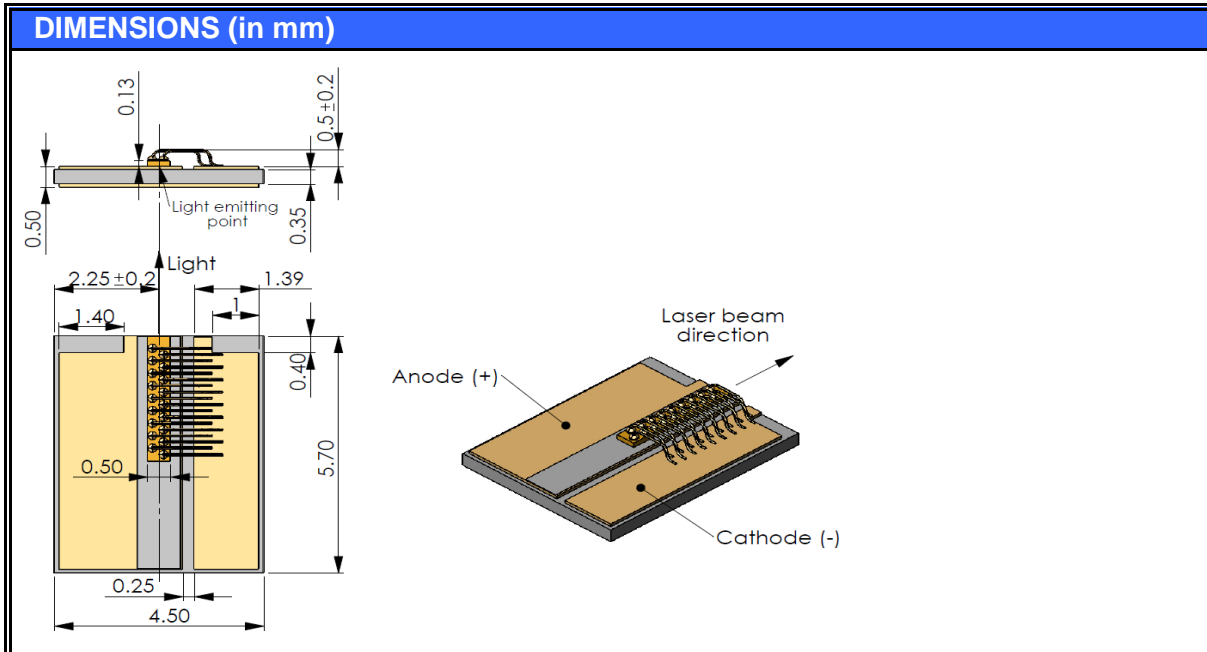


CW Fast Axis Far Field



* Performance is given for the 1210nm device. Similar performance is expected for the other wavelengths in the 1130-1320nm range.

ABSOLUTE MAXIMUM RATINGS			
Parameters	Min.	Max.	Unit
Laser Diode reverse voltage	-	2	V
Laser Diode CW forward current	-	lop+4	A
Soldering temperature		250 (5sec.)	°C
Operating temperature range	above dew point	60	°C
Storage temperature range	-40	85	°C



SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this Device is invisible and will harmful to the human eye. Avoid looking directly into the fiber output or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation. Absolute Maximum Ratings may be applied to the Device for short period of time only. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the Device.

Operating the product outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the Device must be employed such that the maximum peak optical power cannot be exceeded. A proper heatsink for the Device on thermal radiator is required, sufficient heat dissipation and thermal conductance to the heatsink must be ensured by flux-free soldering.

The Device is an Open-Heatsink Diode Laser; it may be operated in cleanroom atmosphere or dust-protected housing only. Operating temperature and relative humidity must be controlled to avoid water condensation on the laser facets. Any contamination or contact of the laser facet must be avoided.

ESD PROTECTION – Electrostatic discharge is the primary cause of unexpected product failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling the product.

LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO
 DIRECT OR SCATTERED RADIATION
 CLASS 4 LASER PRODUCT

CAUTION
 STATIC SENSITIVE DEVICE
 OBSERVE PRECAUTIONS

DANGER

VISIBLE AND/OR INVISIBLE LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO
 DIRECT OR SCATTERED RADIATION

 DIODE LASER
 MAX POWER 20W
 WAVELENGTH 650 - 1400 nm
 CLASS IV LASER PRODUCT

Example of Part Number Identification
 LD-1240-CoC-4W -> 4W output power at mean wavelength 1240nm

NOTE: Innolume product specifications are subject to change without notice