Innolume GmbH
Konrad-Adenauer-Allee 11
44263 Dortmund, Germany

Specification

SML1155005TC500MXXXX

High Power Single Mode Laser Diode in 9mm TO-can header

Features:

- Output power 500mW @ 1155nm in CW mode
- InAs/GaAs Quantum Dot based diode laser
- Proprietary mirror coating technology enabling high reliability
- Reliable Au/Sn bonding
- RoHS compliance
- Optional: cap
- Optional: mounting on open heatsink (C-mount or AlN carrier)

Applications:

Recommended Operating Conditions

Device is mounted on heatsink

Parameter	Min.	Typ.	Max.	Unit
Heatsink Temperature	20	25	40	°C
Forward Current		800	900	mA
Output Power	10		500	mW

Characteristics

@ CW, 25°C, 800mA

Parameter	Min.	Typ.	Max.	Unit
Forward Current @ 500mW			900	mA
Forward Voltage @ 500mW		1.6	1.8	V
Threshold Current		40	70	mA
Mean Wavelength	1145	1155	1165	nm
Bandwidth (FWHM)		5	8	nm
Wavelength Temperature Tunability		0.5		nm/°C
Slow Axis Beam Divergence (FWHM)	4	6	9	deg
Fast Axis Beam Divergence (FWHM)	24	27	31	deg
Aperture Size		5x1		µm*µm
Polarization		TE		

Absolute Maximum Ratings

Parameter	Min	Max	Unit
Forward Current (CW)		1000	mA
Reverse Voltage		2	V
Lead Soldering Temperature (max 5 sec.)		250	°C
Operating temperature (above dew point)	5	60	°C
Storage Temperature	-40	85	°C

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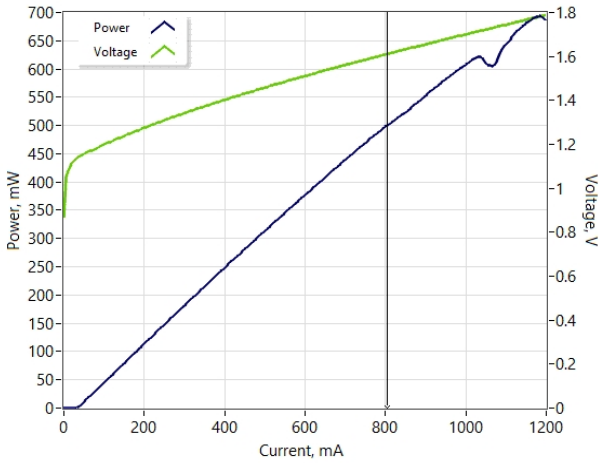
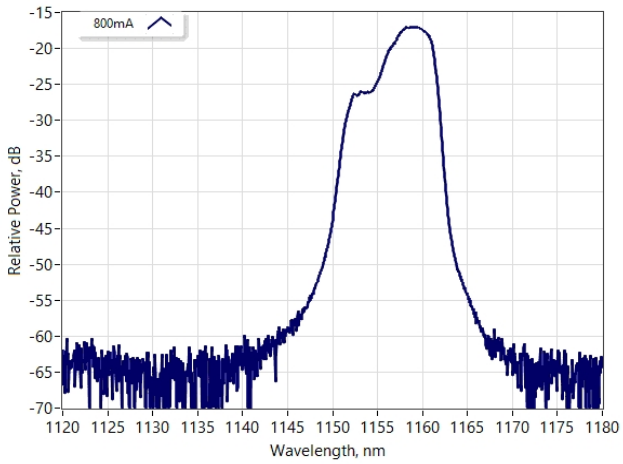
Typical Performance (for reference only)

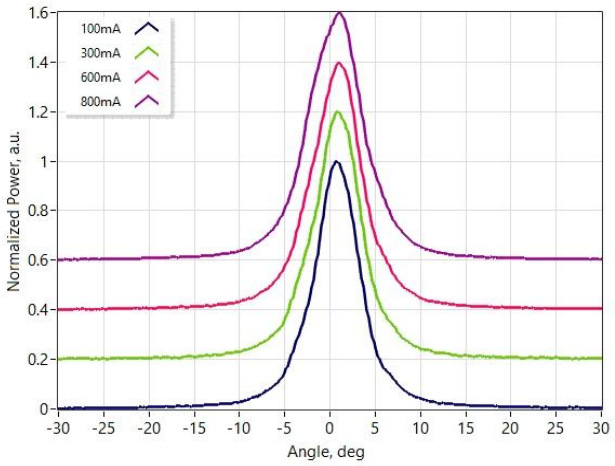
Light-Current-Voltage Characteristics



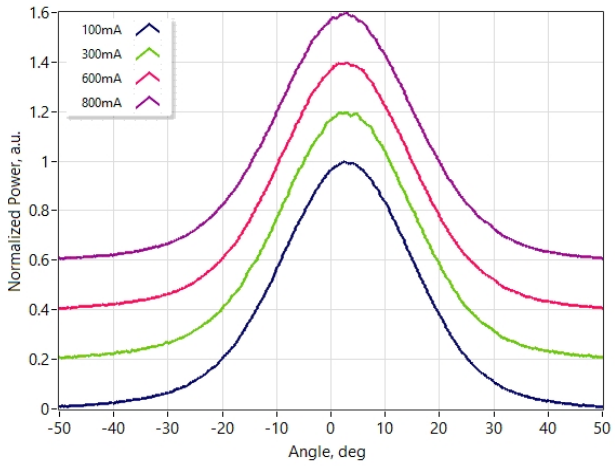
Optical Spectra (res. 0.5nm)



Slow Axis Far Field



Fast Axis Far Field



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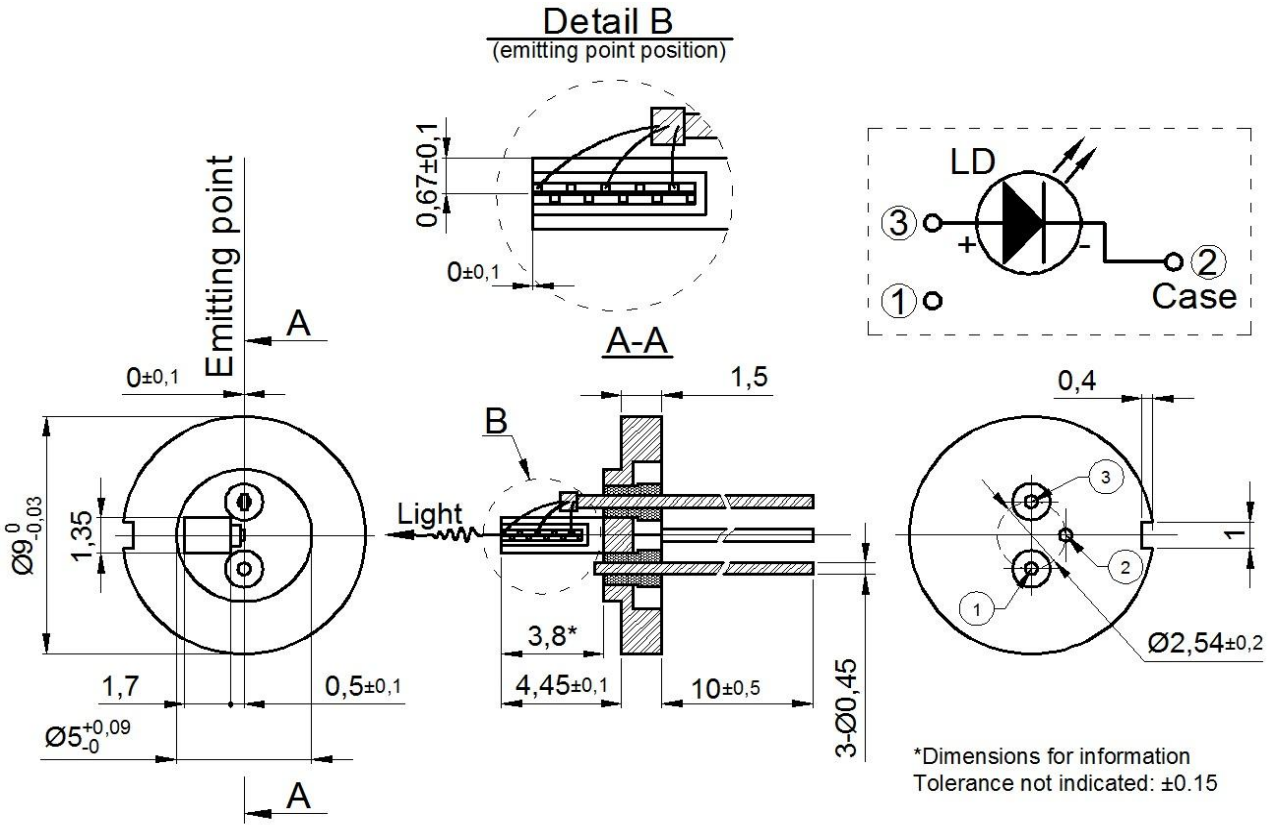
Dimensions (in mm)

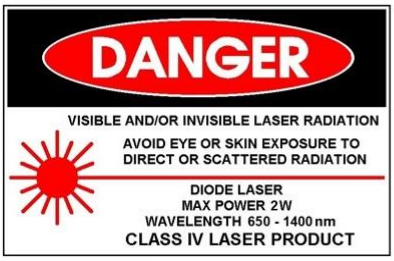
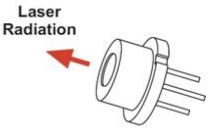


Safety and Operating Instructions

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. It's recommended using of Indium metal foil (or similar) between TO-header and heatsink surface for thermal interface.

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.