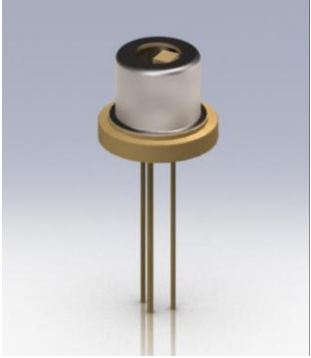


SM-10XX-TO-500 High Power Diode Laser in 9mm TO-can header – 500mW @ 1064nm	
	<p>Features:</p> <ul style="list-style-type: none"> • Up to 500mW output power • Proprietary mirror coating technology enabling high reliability • High reliable Au/Sn-technology • Cap on request • Optional: monitor photodiode
Specification for engineering samples	DATE: 01 st Sep. 2020

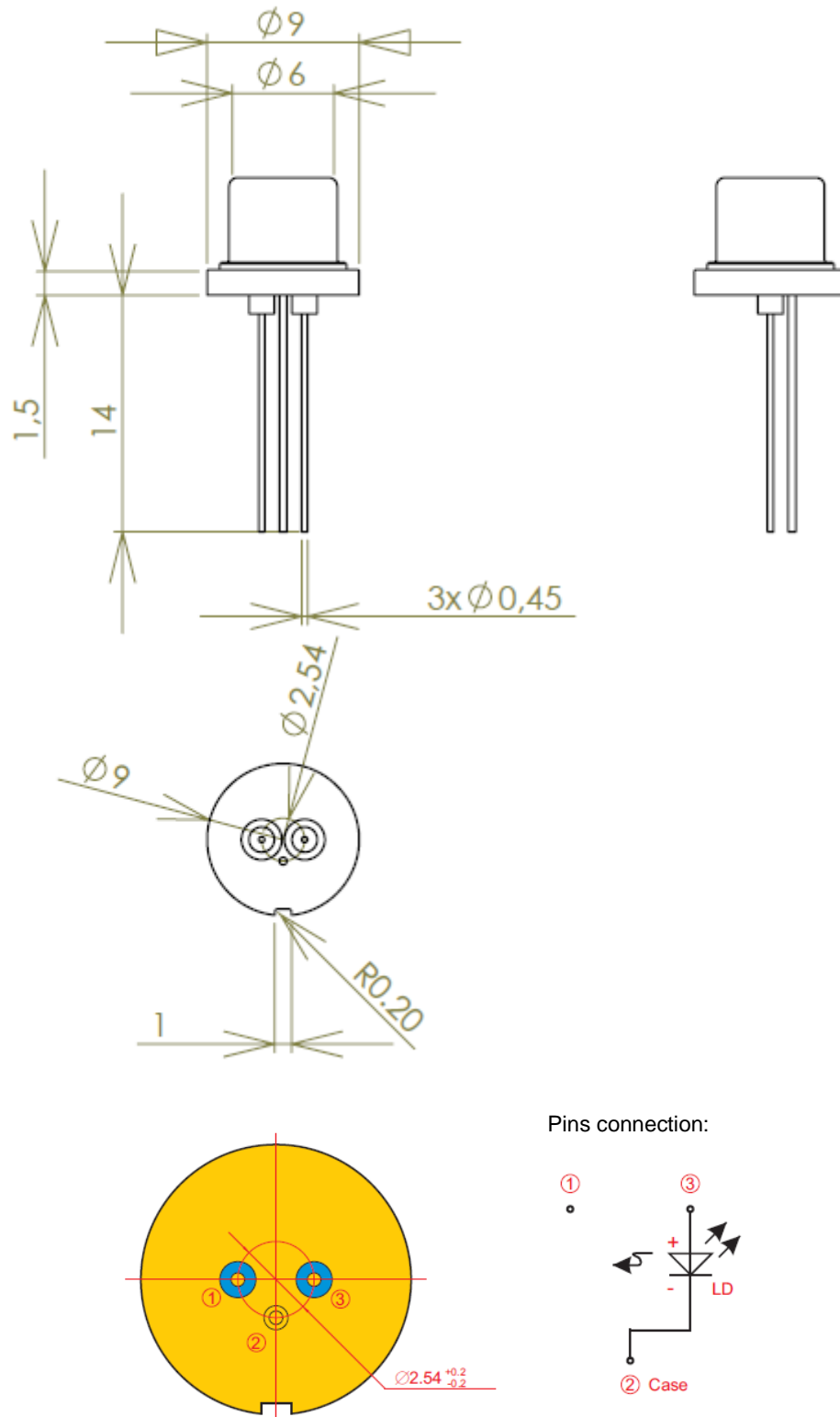
SPECIFICATIONS					
Test conditions: CW operation, heatsink temperature 25°C.					
Parameters	Symb.	Min.	Typ.	Max.	Unit
Output power	P_{out}	500			mW
Range of available wavelength at P_{out}	λ	1050	1064	1090	nm
Mean wavelength at P_{out} ¹	λ	$\lambda-10$	λ	$\lambda+10$	nm
Spectral width @ -3dB level at P_{out}	$\Delta\lambda$		0.3	2	nm
Wavelength temperature shift	$\Delta\lambda/\Delta T$	0.3	0.35	0.4	nm/°C
Threshold current	I_{th}		80	150	mA
Operating current at P_{out}	I_{op}		650	800	mA
Divergence parallel to p-n junction (FWHM)	Θ_{\perp}	4	5	8	deg.
Divergence perpendicular to p-n junction (FWHM)	Θ_{\parallel}	33	35	40	deg.
Forward voltage at P_{out}	V_f		1.7	1.8	V
Recommended operating temperature	T_{op}	20	25	30	°C

¹ Weighted mean ("center of mass") spectral point. Reduced wavelength tolerance on request.

ABSOLUTE MAXIMUM RATINGS			
Parameters	Min.	Max.	Unit
Laser Diode reverse voltage		1	V
Laser Diode CW forward current		1000	mA
Lead soldering temperature		250 (5 sec.)	°C
Storage temperature range (in original sealed pack)	-40	85	°C
Operating temperature range	above dew point	50	°C

NOTE: Innolume product specifications are subject to change without notice.

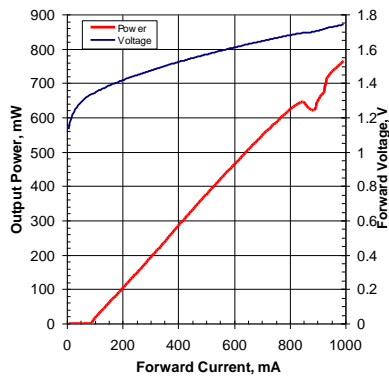
DIMENSIONS (All sizes in mm)



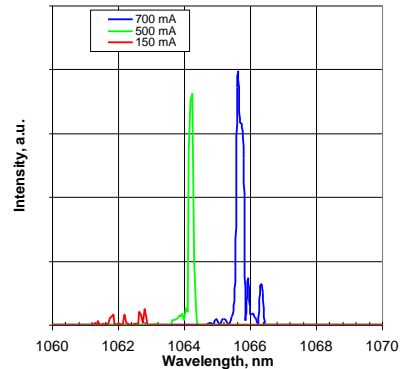
TYPICAL PERFORMANCE

CW, at 25°C heatsink temperature

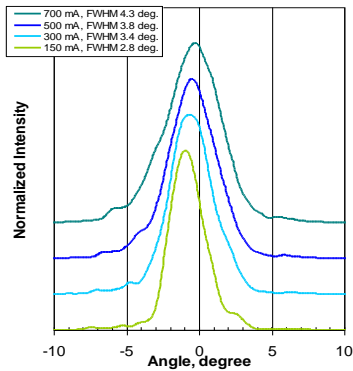
Light-Current-Voltage Characteristics



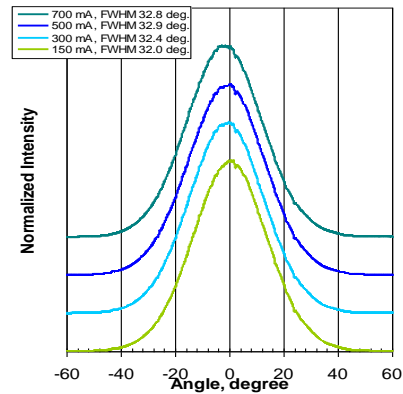
Spectra Characteristics



CW Slow Axis Far Field



CW Fast Axis Far Field



SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this Device is invisible and will be harmful to the human eye. Avoid looking directly into the device 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.

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.

