

DFB-1064-TO-250	
High Power Diode Laser in 9mm TO-can header – 250mW @ 1064nm	
	<p>Features:</p> <ul style="list-style-type: none"> • 250mW output power • Highly reliable Au/Sn-technology • Proprietary mirror coating technology enabling high reliability • 100 hours burn-in test passed • Optional: monitor photodiode
<p>Application:</p> <ul style="list-style-type: none"> • Seeding • Gas sensing • Instrumentation/measurement equipment 	
Specification	DATE: 29 th Jan 2015

SPECIFICATIONS					
Test conditions: CW operation, chip temperature 25°C, the module is mounted on room temperature heatsink.					
Parameters	Symb.	Min.	Typ.	Max.	Unit
Output power	P_{out}	250			mW
Peak wavelength at P_{out}	λ_P	1062	1064	1066	nm
Spectral Width at P_{out} ¹	$\Delta\lambda$		<3	5	MHz
Wavelength Thermal Coefficient	$\Delta\lambda/\Delta T$		90	120	pm/°C
Sidemode Suppression Ratio at P_{out}	SMSR	35	40		dB
Wavelength Current Coefficient	$\Delta\lambda/\Delta I$		2	5	pm/mA
Threshold current	I_{th}		35	50	mA
Operating current at P_{out}	I_{op}		300	400	mA
Forward voltage at P_{out}	V_f		1.7	1.9	V
Polarization Extinction Ratio	PER	15	20		dB
Divergence perpendicular to p-n junction (FWHM)	Θ_{FA}	25	30	38	deg.
Divergence parallel to p-n junction (FWHM)	Θ_{FA}	4	6	9	deg.

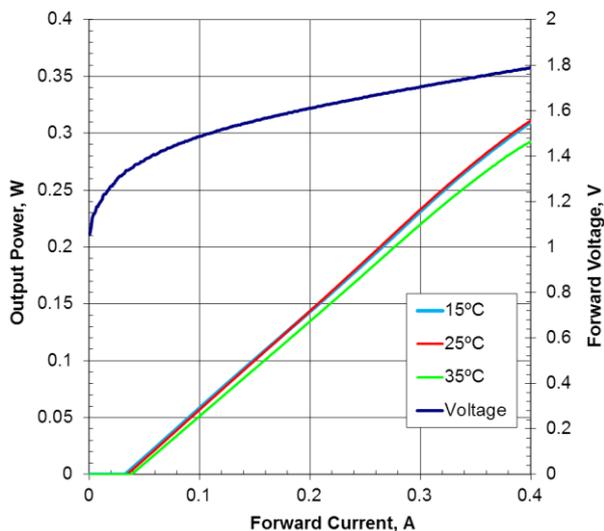
¹ Extracted from self-heterodyning response with 9km delay line

ABSOLUTE MAXIMUM RATINGS			
Parameters	Min.	Max.	Unit
Laser Diode reverse voltage		1	V
Laser Diode CW forward current		500	mA
Storage temperature range (in original sealed pack)	-40	80	°C
Lead soldering temperature (max. 5 sec.)		250 (5 sec.)	°C
Operating temperature range	15	50	°C

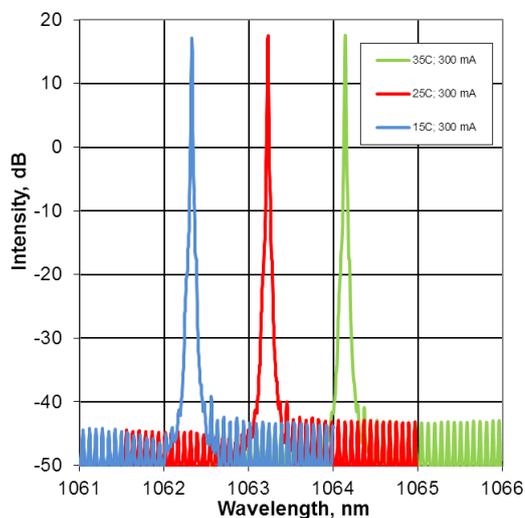
NOTE: Innolume product specifications are subject to change without notice.

TYPICAL PERFORMANCE for reference only.
 Test conditions: CW operation, the TO-can is mounted on room temperature heatsink.

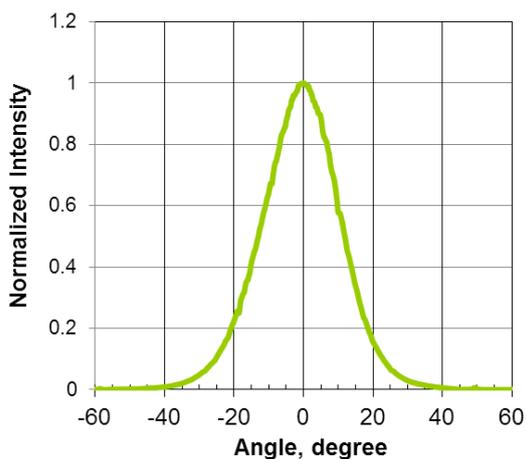
Light-Current-Voltage Characteristics



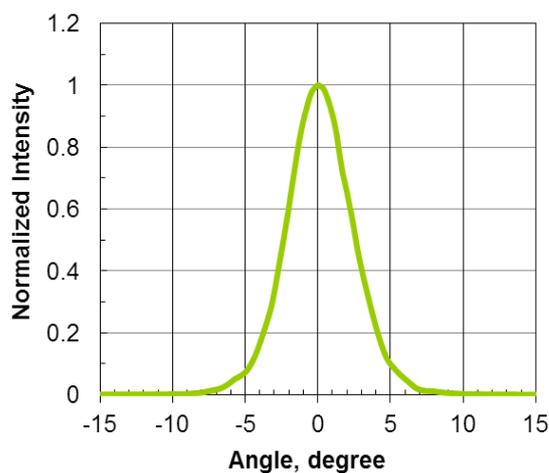
Output Spectra at operating current (resolution 10pm)



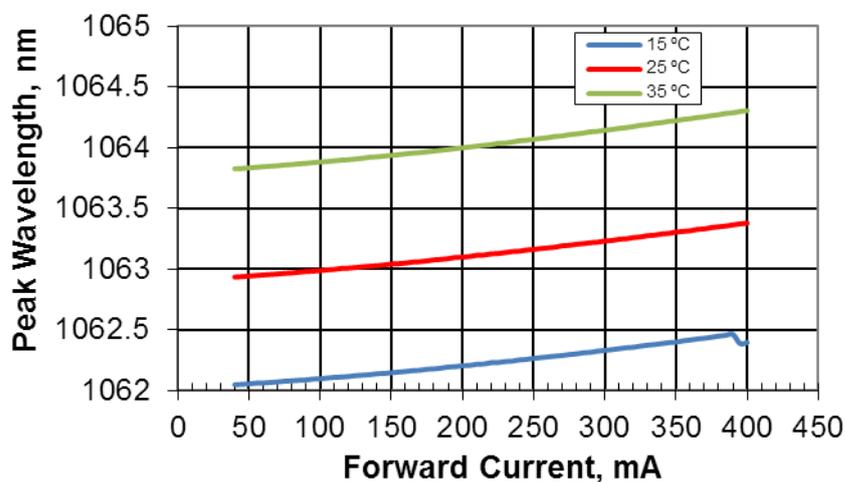
Fast Axis Far Field at operating current, 25°C



Slow Axis Far Field at operating current, 25°C



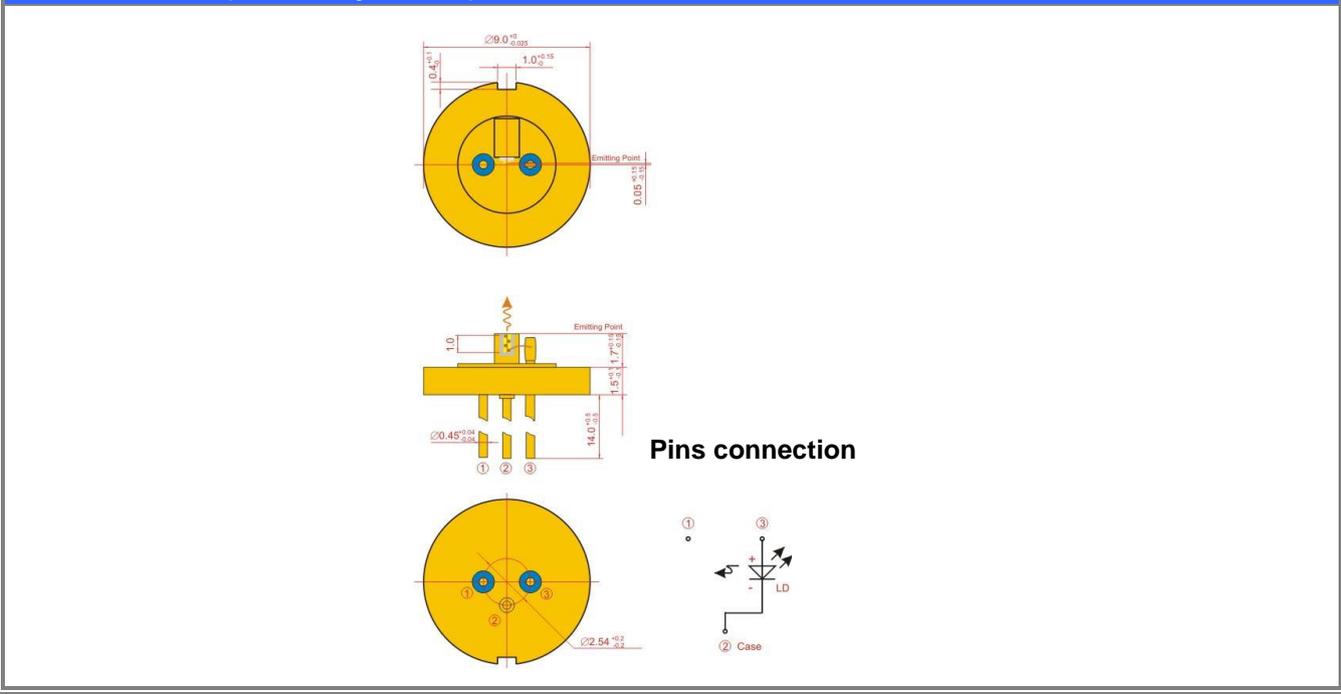
Wavelength vs. Current and Temperature



CHIP VISUAL ACCEPTANCE CRITERIA

Top view: no indentations deeper 30um on cleaved edges, no scratches or indentations on mesa
 Front facet view: no particles or defects of coating in 10-um area around mesa

DIMENSIONS (All sizes are given in mm)



SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this device is invisible and can be dangerous to a 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.

The device is an open-heatsink laser diode; 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.



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