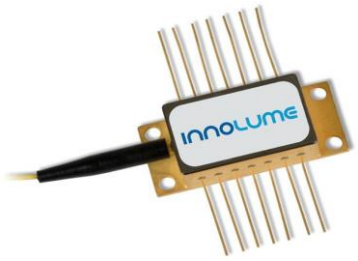
Innolume GmbH
Konrad-Adenauer-Allee 11, 44263 Dortmund/Germany
Phone: +49 231 47730 200; Web: www.innolume.com

SLD-1060-20-YY-300

Fiber Coupled Superluminescence Diode (SLD)



Features:
- Broadband ASE spectra at 1060nm
- Strong linear polarization
- Individual burn-in and thermal cycling screening
- RoHS compliance

Applications:
- Fiber sensors, instrumentation, spectroscopy

SPECIFICATIONS

Test conditions: CW operation, chip temperature 25°C, the case is mounted on room temperature heatsink

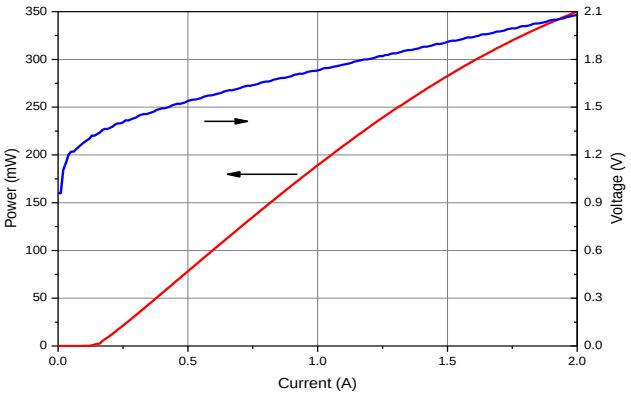
Parameters	Symb.	Min.	Typ.	Max.	Unit
Operating output power	Pout	250	300		mW
ASE mean wavelength	λm	1050	1060	1070	nm
ASE bandwidth @ -3dB	Δλ	15	20		nm
ASE spectrum ripples			0.3	0.5	dB
Polarization Extinction Ratio	PER	15	20		dB
Operating current	Iop		1600	1800	mA
Forward voltage	Vf		2.0	2.2	V

* RMS in 1nm range at ASE maximum, 10pm resolution

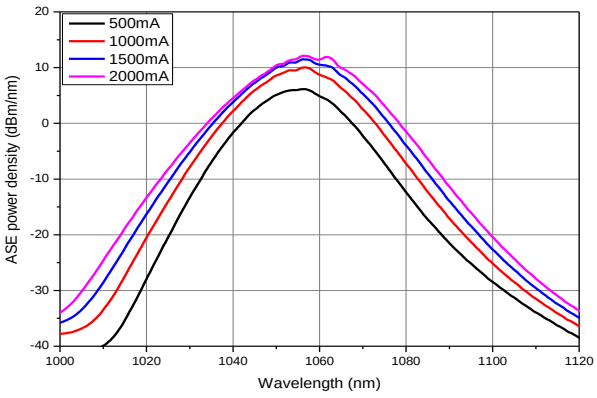
TYPICAL PERFORMANCE for reference only

Test conditions: CW operation, chip temperature 25°C, the case is mounted on room temperature heatsink

Light-Current-Voltage Characteristics



Spectral Characteristics



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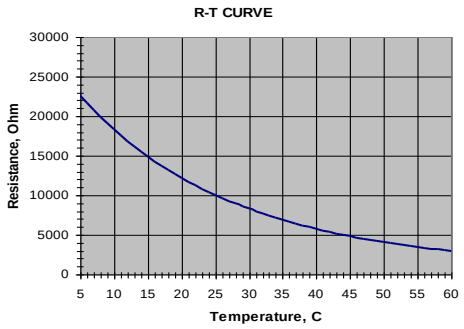
ABSOLUTE MAXIMUM RATINGS

Parameters	Min.	Max.	Unit
SLD reverse voltage	-	2	V
SLD CW forward current	-	2000	mA
Thermo Electric Cooler current	-	3	A
Thermo Electric Cooler voltage	-	4	V
Fiber bend radius	3	-	cm
Chip operating temperature range	5	40	°C
Case operating temperature range	0	70	°C
Storage temperature range	-40	85	°C

THERMISTOR SPECIFICATION

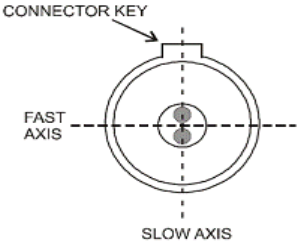
Parameters	Value	Unit
Thermistor type	NTC	-
Resistance @25°C	10 ± 0.1	kOhm
Beta 0-50°C	3375±1%	K



FIBER SPECIFICATION

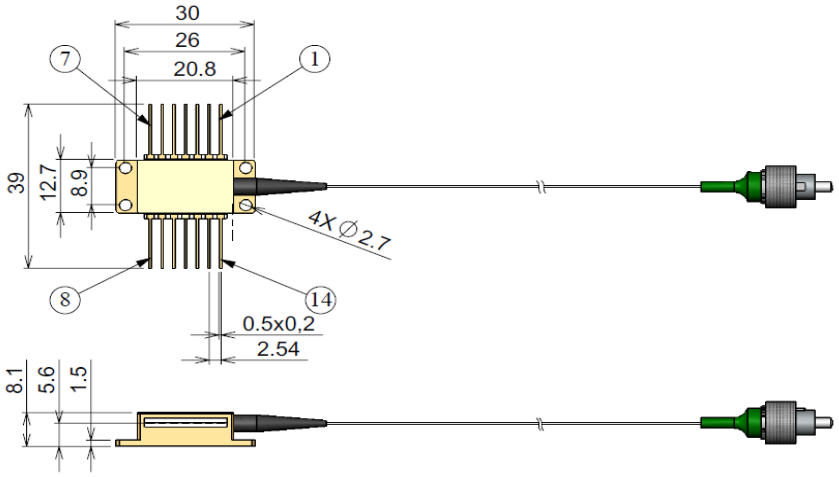
Parameters	HI1060	PM980	Unit
Numerical aperture (Typical)	0.14	0.12	
Cutoff wavelength	920±50	900±70	nm
Mode-field diameter (@1060nm)	6.2±0.3	6.6±0.3	μm
Cladding diameter	125±1	125±1	μm
Coating diameter	245±15	245±15	μm
Length	1.0 ± 0.1	1.0 ± 0.1	m
Connector	FC/APC (narrow key)		

Connector alignment to the PANDA fiber



The output light is polarized along the slow axis of PM fiber.

DIMENSIONS (in mm)



Pin identification:

1	TEC "+"
2	Thermistor
3	-
4	-
5	Thermistor
6	-
7	-
8	-
9	-
10	SLD anode "+"
11	SLD cathode "-"
12	-
13	Case
14	TEC "-"

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SAFETY AND OPERATING INSTRUCTIONS

The light emitted from this device is invisible and can be harmful to the human eye. Avoid looking directly into the fiber connector when the device is in operation. Proper laser safety eyewear must be worn during operation with open connector.

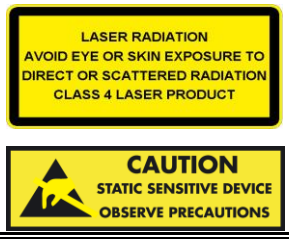
Absolute Maximum Ratings may be applied to the SLD for short period of time only. Exposure to maximum ratings for extended period of time or exposure to more than one maximum rating may cause damage or affect the reliability of the device. Operating the SLD outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum forward current cannot be exceeded.

A proper heatsink for the SLD on thermal radiator is required. The SLD must be mounted on radiator with 4 screws (bolt down in X-style fashion with initial torque set to 0.075Nm and final X-style bolt down at 0.15Nm) or with clamps. The deviation from flatness of radiator surface must be less than 0.05mm. It's recommended using of Indium foil or thermal conductive and soft material between bottom of the case and heatsink for thermal interface. It's undesirable to use thermal grease for this.

Avoid back reflection to the SLD. It may give impact on the device performance in aspects of spectrum and power stability. It also may cause fatal SLD facet damage. Using of optical isolators is highly recommended to block back reflection.

Do not pull the fiber. Do not bend a fiber with a radius smaller than 3 cm. Operate the laser module with clean fiber connector only. Periodically check and clean the connector if necessary. To clean the connector use a clean-room compatible tissue only, put some Isopropyl alcohol onto it and carefully clean the facet of the connector, or use special fiber cleaning tools. Perform cleaning only with the laser current switched off.

Electrostatic discharge can lead to device failure. Take necessary precautions to prevent ESD.



Part Number Identification

YY: Optical fiber type
PM – PM980 fiber
HI – HI1060 fiber
Example: SLD-1060-20-PM-300

NOTE: Innolume product specifications are subject to change without notice