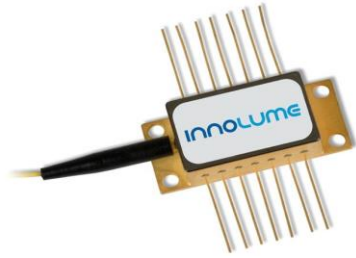


SLD-1280-50-YY-1

Fiber Coupled Superluminescence Diode (SLD)



Features:

- Broadband ASE spectra (1250-1310nm)
- Low ripples
- 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

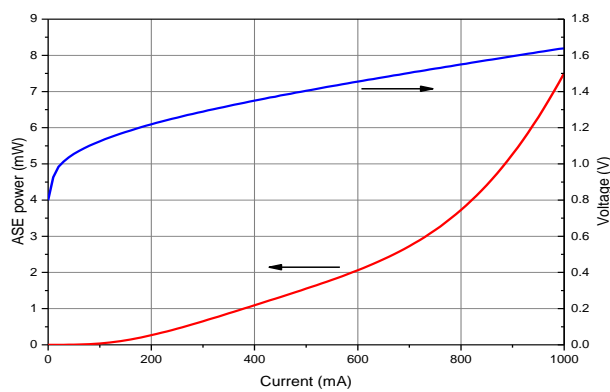
Parameters	Symb.	Min.	Typ.	Max.	Unit
Operating output power	P _{out}	0.7	1.2		mW
Mean wavelength	λ_m	1270	1280	1290	nm
Bandwidth @ -3dB	$\Delta\lambda$	40	50		nm
ASE spectrum ripples*			0.02	0.1	dB
Polarization Extinction Ratio	PER	15	20		dB
Operating current	I _{op}		400	500	mA
Forward voltage	V _f		1.4	1.6	V
Rise time	T _{rise}		0.5		ns
Fall time	T _{fall}		0.5		ns

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

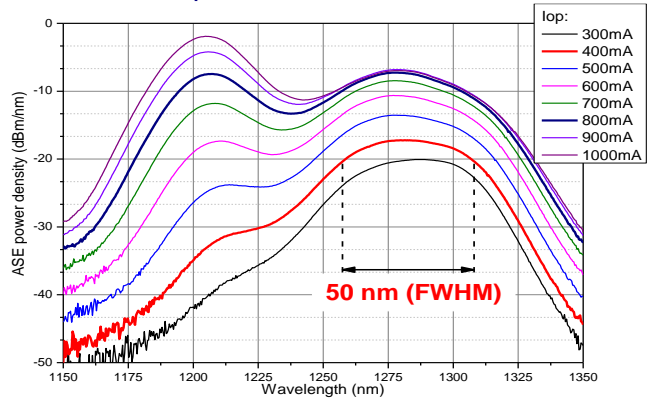
TYPICAL PERFORMANCE for reference only

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

Light-Current-Voltage Characteristics



Spectral Characteristics



ABSOLUTE MAXIMUM RATINGS			
Parameters	Min.	Max.	Unit
SLD reverse voltage	-	2	V
SLD CW forward current	-	lop+300	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

R-T CURVE

Resistance, Ohm

Temperature, C

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

CONNCTOR KEY

FAST AXIS

SLOW AXIS

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

DIMENSIONS (in mm)	
	<p>Pin identification:</p> <ul style="list-style-type: none"> 1 TEC "+" 2 Thermistor 3 - 4 - 5 Thermistor 6 - 7 - 8 - 9 - 10 SLD anode "+" 11 SLD cathode "-" 12 - 13 Case 14 TEC "-"

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 device 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 device 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 device on thermal radiator is required. The device 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 device. It may give impact on the device performance in aspects of spectrum and power stability. It also may cause fatal 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. Fiber tip should always be protected from any contamination or damage during the process of installation. After removing the dust-preventing cap covered at fiber tip, carefully clean fiber tip by wiping through one direction using optical lens cleaning paper or cotton swab dabbed with Iso-Propanol or Ethyl alcohol. Operate the device with clean fiber connector only.

Electrostatic discharge is the primary cause of unexpected product failure. Take extreme precaution to prevent ESD. During device installation, ESD protection has to be maintained - use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling the product.



Part Number Identification

YY: Optical fiber type
 PM – PM980 fiber
 HI – HI1060 fiber
 Example: SLD-1280-50-PM-1

NOTE: Innolume product specifications are subject to change without notice