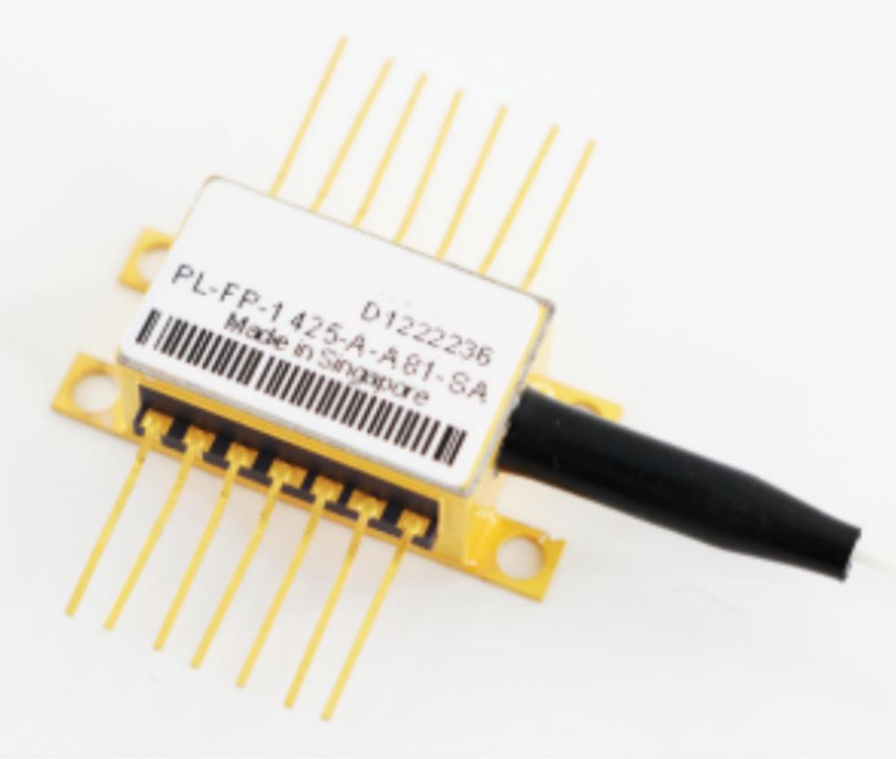
1060nm Polarization-maintaining SLD laser diode 40mW



● Product Description

The LP-780SM-FA-C series coaxial single-mode fiber coupled laser is a low-loss single-mode fiber coupled laser introduced by Idealphotonics . It features a compact packaging size and high output power. Our products are widely used in laser communication, printing, and laser medical fields.

● Part Number

PL-SLD-1060-B-A81-PA

● Product features

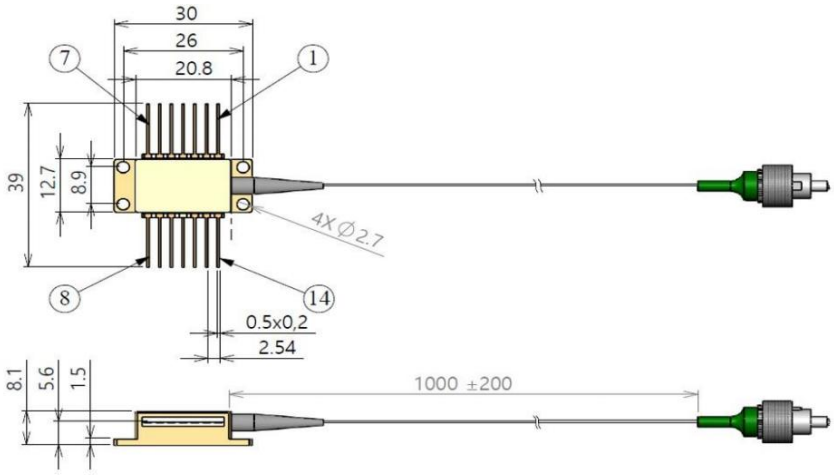
Ultra-broadband ASE spectrum、 Low ripple、 Strong linear polarization、

Individual aging and thermal cycling screening、 Proprietary mirror coating technology for high reliability、 Polarization-maintaining PM980 fiber or HI1060 fiber 、 900um fiber loose tube (optional)、 Built-in monitor photodiode (optional)

● Application area

Fiber Optic Sensors、 Spectroscopy、 Instrumentation

Dimensional Drawing



Pin identification:
1. TEC "+"
2. Thermistor
3. Monitor PD anode ("-")
4. Monitor PD cathode ("+")
5. Thermistor
6. -
7. -
8. -
9. -
10. LD anode ("+")
11. LD cathode ("-")
12. -
13. Case
14. TEC "-"

Parameter

Recommended Operating Conditions* @CW, case mounted on heat sink at room temperature

Chip temperature	20	25	30	° C
Forward current		700		mA
Output power		40		mW
*-recommended based on Max. Spectral width and flatness				

characteristic @CW，25°C，700mA

Parameter	Min.	Typ.	Max.	Unit
Output power	25			mW
Forward voltage		1.7	2.1	V
Average wavelength	1045	1055	1065	nm
Bandwidth （ FWHM）	90	120		nm
Ripple**（ RMS）			0.5	dB
Excitation state Max. position		1000		nm
Ground state Max. position		1085		nm
Spectral tilt		5		dB
Polartization extinction ratio	15	20		dB
polarization		TE		
**-RMS in the range of 1nm, near ASEMax. value, resolution of 10pm				

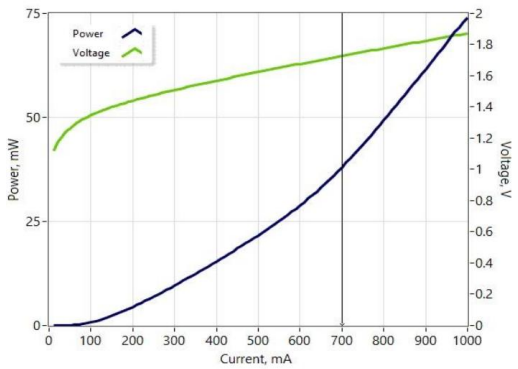
Absolute Max. ratings

Parameter	Min	Max	Unit
Output power		150	mW
Forward current		800	mA
Backward voltage		2	V
TEC current		3	A
TEC voltage		4	V
Chip operating temperature	5	40	℃
Case operating temperature	0	70	℃
Storage temperature	-40	85	℃
Fiber Band Radius	3		cm

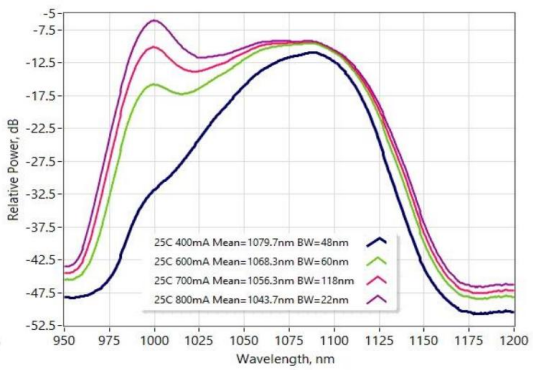
Typical performance (for reference only)

@CW, housing mounted on room temperature heat sink

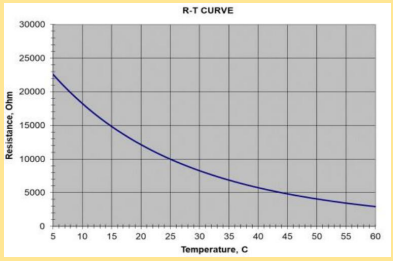
Light-Current-Voltage Characteristics

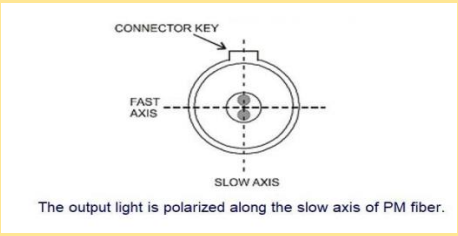


Optical Spectra (res. 1nm)



Thermistor specifications			Fiber optical specifications			
Parameters	Value	Unit	Parameters	Value	Value	Unit
Type	NTC		Fiber type	HI1060	PM980	
Resistance @ 2 5°C	10±0.1	kΩ	Numerical aperture (Typical)	0.14	0.12	
Beta 0-50°C	3430±1%	K	Cut-off wavelength	920±50	900±70	nm
			Mode field diameter	6.2±0.3 @1060nm	6.6±0.3 @1060nm	μm
			Cladding diameter	125±1	125±1	um
			Coating diameter	245±15	245±15	μm
			Loose tube diameter (optional)	900	900	μm
			connector	FC/APC	FC/APC	
			Key	narrow	narrow	





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

Safety and Operating Instructions

The light emitted by this device is invisible and can be harmful to the human eye. Avoid looking directly at the fiber connector while the device is operating. Appropriate laser safety glasses must be worn when operating with the connector open. The Max. ratings must only be applied to the device for short periods of time. Exposure to the Max. ratings for extended periods of time or exposure to more than one Max. rating may cause damage to the device or affect the reliability of the device. Operating the device outside the Max. ratings may cause device failure or safety hazards. The power supply used with the component must ensure that the Max. forward current cannot be exceeded.

A suitable heat sink is required for the device on the heat sink. The device must be mounted on the heat sink using 4 screws (tightened in an X-shaped manner with an initial torque setting of 0.075Nm and a final X-bolt tightening of 0.15Nm) or a clamp. The heat sink surface must have a deviation from flatness of less than 0.05mm. It is recommended to use indium foil or thermally conductive soft material as a thermal interface between the bottom of the housing and the heat sink. It is undesirable to use thermal grease for this purpose.

Avoid reflections from the back of the device. It may have an impact on the performance of the equipment in terms of spectrum and power stability. It may also cause fatal facet joint damage. It is highly recommended to use an optical isolator to block back reflections.

Do not pull on the fiber. Do not bend the fiber with a radius less than 3 cm. During installation, the top of the fiber should always be protected from any contamination or damage. After removing the dust cap covering the top of the fiber, use optical lens cleaning paper or cotton swabs dipped in isopropyl alcohol or ethanol to carefully wipe the top of the fiber in one direction. Only operate the equipment with clean fiber connectors.

Electrostatic discharge is the main cause of unexpected product failure. Take extreme precautions to prevent ESD. During equipment installation, ESD protection must be maintained - use a wrist strap, a grounded work surface, and strict anti-static techniques when handling products.