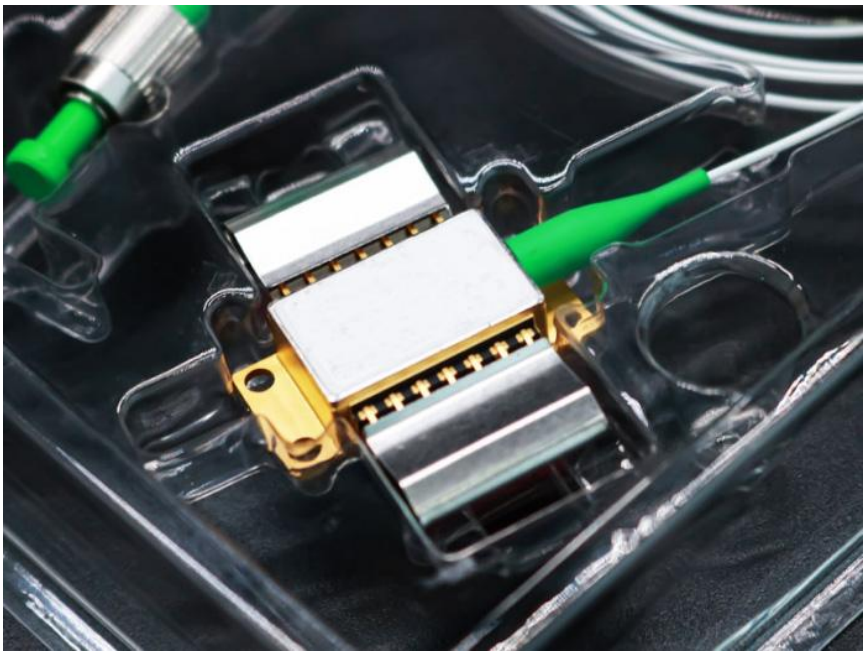
1280nm 7mW SLD Laser Diode



Product Description

The 1280nm SLD series is a broadband SLD operating in inherent superluminescent mode. Unlike traditional ASE-based SLEDs, which produce narrower spectral bandwidths under higher drive currents, this superluminescent characteristic enables it to generate wider spectral bandwidths at higher drive currents. Its low coherence reduces Rayleigh backscattering noise. Combined with high power and broad spectral width, it mitigates photodetector noise, improving spatial resolution (for OCT) and measurement sensitivity (for sensors). This 1280nm SLD features a 14-pin

butterfly package and meets the requirements of Bellcore document GR-468-CORE.single-pass gain for spontaneous emission generated along the waveguide, but unlike laser diodes, the feedback is insufficient to achieve lasing action.

Product features

High-power SLD output; Polarization-maintaining fiber coupling; Broad spectral characteristics; High stability; Compact industrial design

Part Number

MP-SLD-1280-7-A81-14BF-PA

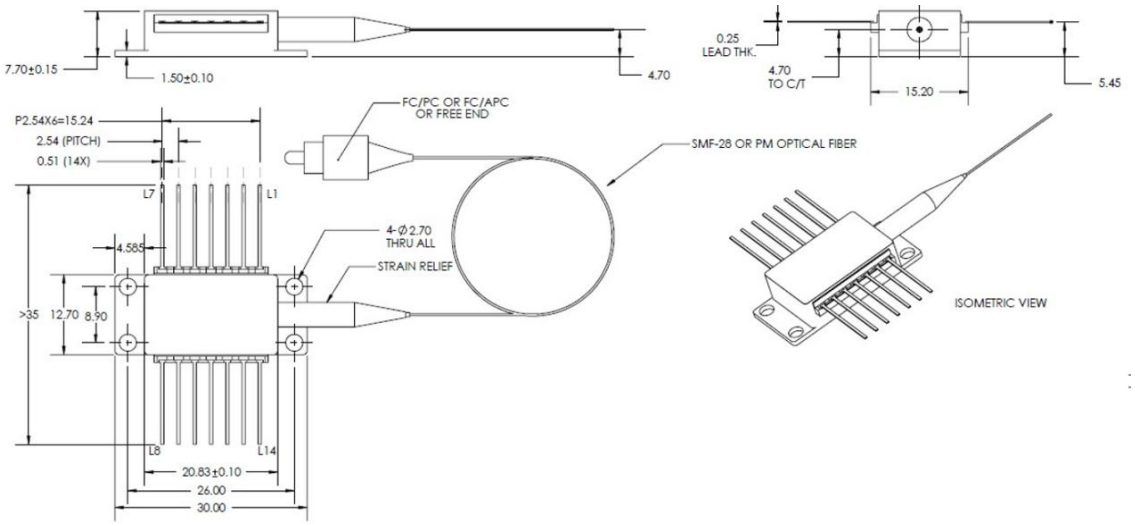
Application area

Optical Coherence Tomography | Fiber-optic sensing | Device testing | Biological detection | Fiber-optic gyroscopes

Core parameters

Average Wavelength	Spectral Width (FWHM)	Output Power
1280 nm	70nm	7 mW

Dimension Drawing



General Parameters

Technical parameters

Technical parameters: (T_{SLED} = 25 °C)

Parameters	symbol	conditions	Min.	typical	Max.	unit
Operating current	I_{op}	-	-	-	400	mA
Forward voltage	V_F	I_{op}	-	-	2.4	V
Single-mode fiber output power	P_o	I_{op}	7	-	-	mW
Center wavelength	l	I_{op}	1260	1275	1290	nm
Spectral width	B_{FWHM}	I_{op}	70	-	-	nm
Spectral modulation	R	I_{op}	-		0.4	dB
Thermistors	R_{therm}	T = 25 °C	9.5	10	10.5	kΩ

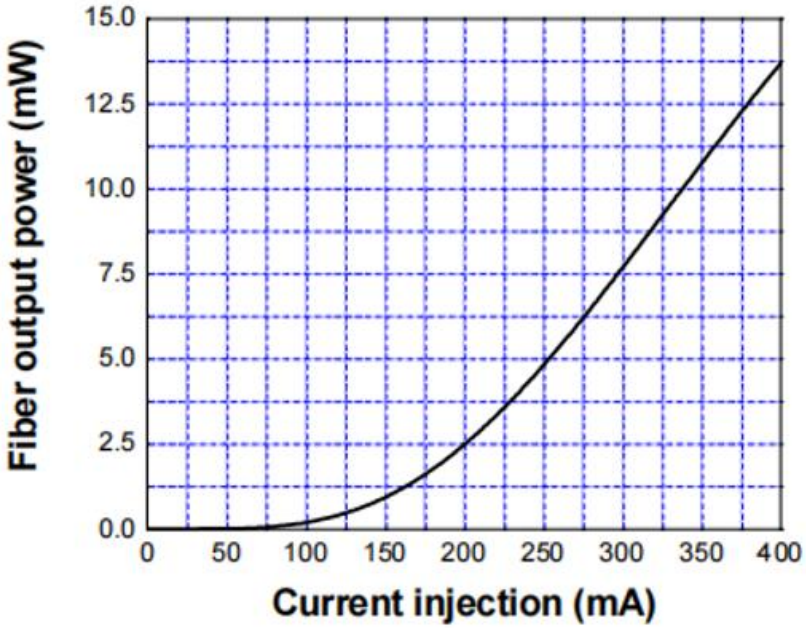
TEC voltage	V_{TEC}	I_{op}	-	-	2.9	V
TEC current	I_{TEC}	I_{op}	-	-	1.6	A

Absolute Maximum Ratings

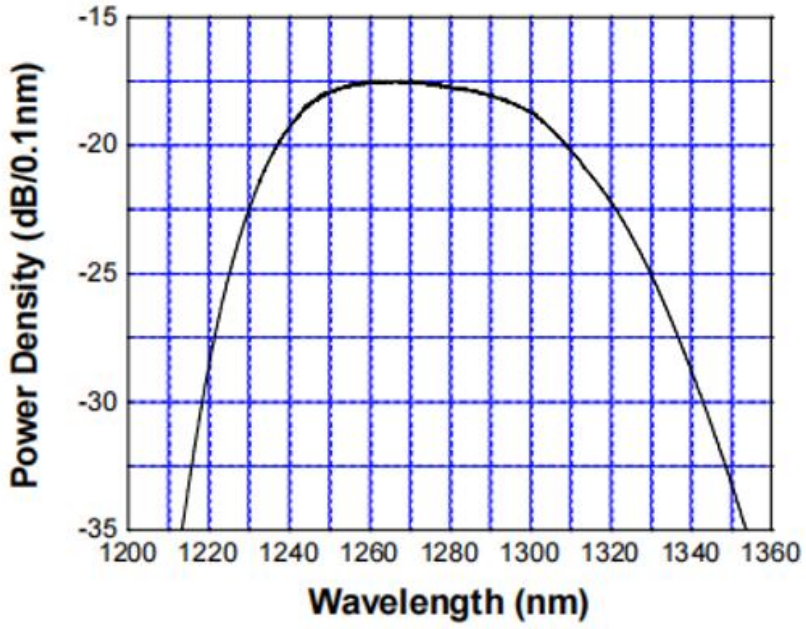
Parameters	symbol	conditions	Min.	Max.	unit
Reverse voltage	V_R	-	-	2	V
Forward current	I_F	-	-	450	mA
Forward voltage	V_F	I_{op}	-	2.8	V
Body temperature	T_c	I_{op}	-40	65	°C
SLED Temperature 1	T_{SLED}	I_{op}	0	70	°C
TEC voltage	V_{TEC}	-	-	3.56	V
TEC current	I_{TEC}	-	-	2.6	A
Storage temperature	T_{stg}	Unbiased	-40	85	°C
Storage humidity	-	-	5	85	%RH
Electrostatic Diffusion (ESD)	V_{ESD}	Human body model	-	500	V
Lead welding temperature	S_{temp}	-	-	260	°C
Lead soldering time	S_{time}	-	-	10	sec

Product characteristics:

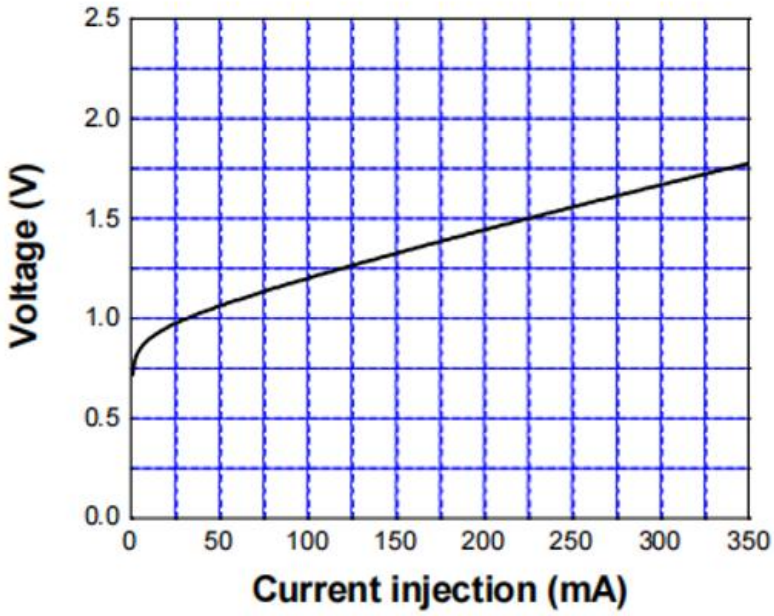
Typical performance curve (operating condition: T_{SLED}=25°C).



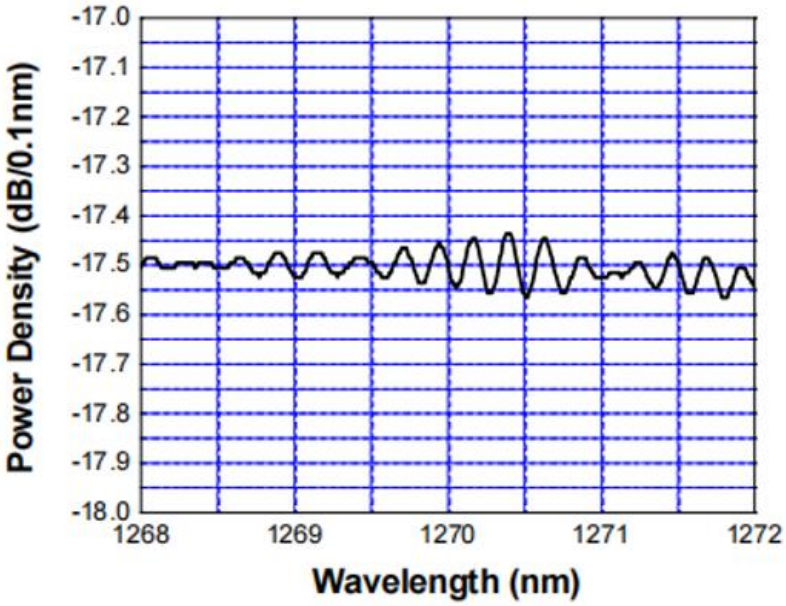
P-I Curve



Spectrum



I-V Curve



Spectral Modulation

BTF package

Parameters	Description
Package type	BTF
Fiber Optics:	SMF-28
MFD	9mm
Cladding diameter	125mm
Coating diameter	245mm
Protective sleeves	900mm loose tube
Pigtail length	1m
Fiber bending radius	>40mm
Connector	FC/APC
Size information	See the figure below

Pin definition

Pin Assignment	
1	TEC+
2	THERMISTOR
3	–
4	–
5	THERMISTOR
6	–
7	–
8	–
9	–
10	SLED ANODE +
11	SLED CATHODE -
12	–
13	CASE
14	TEC -