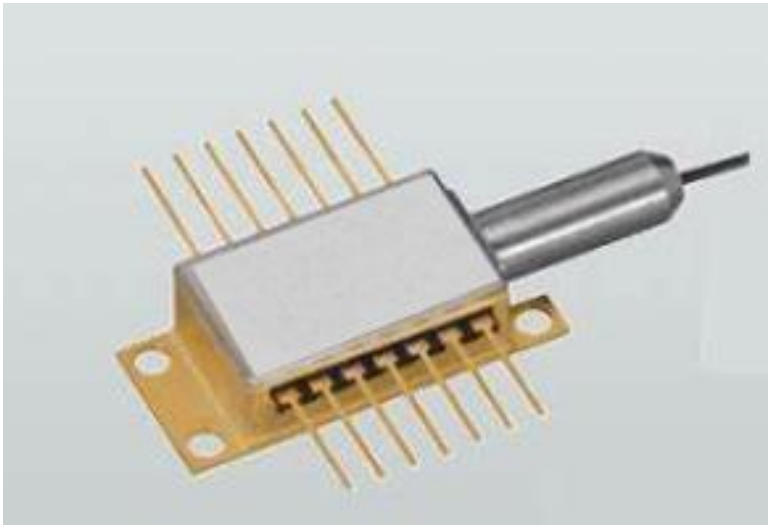
1550nm 25mW SLD Laser Diode



Product Description

An SLD (Superluminescent Diode/SLED) light source provides output power equivalent to that of a laser diode, a broad spectral width equivalent to that of an LED (Light-Emitting Diode), and low coherence. Thanks to its narrow active layer, similar to that of a laser diode, the light it emits is highly suitable for coupling into optical fibers, combining characteristics between those of LDs and LEDs. The 1.55μm SLD (Superluminescent Diode) module developed as an incoherent light source for various optical measurements. The device emits incoherent light with a broad spectral half-width and high output power from a polarization-maintaining fiber (PMF).

Product features

Broad spectral output; Polarization-maintaining fiber coupling; Low coherence; High stability; Intelligent control

Part Number

MP-SLD-1550-25-A81-14BF-PA

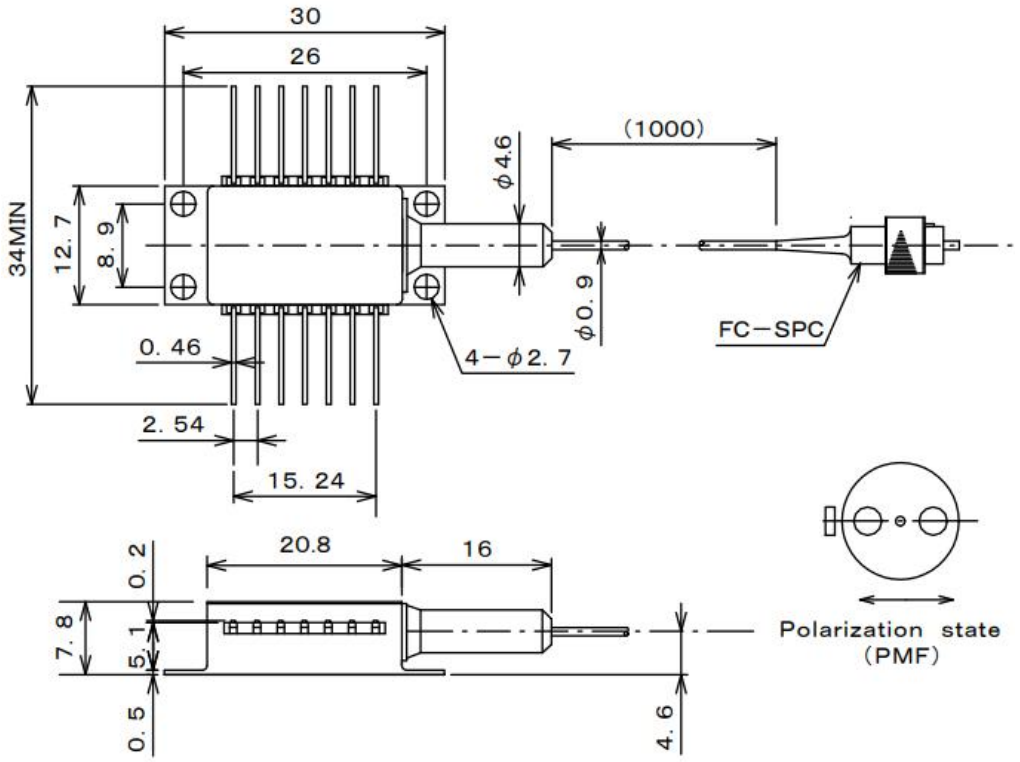
Application area

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

Core parameters

Center Wavelength	Output Power
1550 nm	25 mW

Dimension Drawing

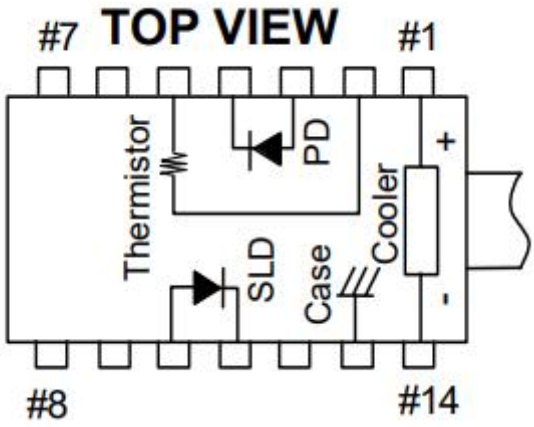


General Parameters

Item	Symbol	Rating	Unit
SLD Forward Current	I_F	600	mA
SLD Reverse Voltage	V_R	2	V
PD Forward Current	IFD	10	mA
PD Reverse Voltage	VRD	10	V
Operating Case Temperature	T_C	-20 to +75	°C
Storage Temperature	T_{stg}	-40 to +85	°C
Cooler Current	I_C	2	A

Exceeding the absolute maximum rating may result in failure.

Pin definition



PIN CONFIGURATION

No.	FUNCTION	No.	FUNCTION
1	Cooler anode	8	NC
2	Thermistor	9	NC
3	PD anode	10	SLD anode
4	PD cathode	11	SLD cathode
5	Thermistor	12	NC
6	NC	13	Case
7	NC	14	Cooler cathode

Optical and electrical characteristics

Optical and electrical characteristics (TSLD=25°C, TC=25°C).

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	P_f= 25mW			2.4	V
Forward Current (BOL)	I_F	P_f = 25mW			500	mA
Center	λ_C	P_f = 25mW, -3dB	1530	155	1570	nm

Wavelength				0		
Spectrum Bandwidth	Δλ	P_f = 25mW, FWHM	55	60		nm
Spectral Ripples	M	P_f = 25mW, res = 0.1nm			0.6	dB
Monitor Current	I_m	P_f = 25mW, V_{RD} = 5V	400		2000	μA
PD Dark Current	I_d	V_{RD} = 5V			0.1	μA
Tracking Error	ΔP_f	I_m = const, T_C = -20 to 75°C			0.5	dB
Cooler Voltage	V_c	I_F = *EOL, T_C = 75°C			3.5	V
Cooler Current	I_c	I_F = *EOL, T_C = 75°C			1.2	A
Thermistor Resistance	R_{th}	T_{SLD} = 25°C, B = 3900 ±100K	9.5	10	10.5	kΩ
Optical Isolation	R_o	λ = 1550nm, T_{SLD} = 25°C		30		dB

(Note) IF(EOL)=IF(BOL)×1.2