

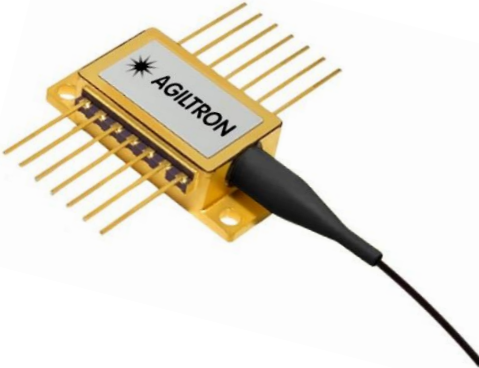
Super Luminescent Light Emitting Diode (SLED)



Up to 60mW, 780, 830, 1060, 1310, 1450, 1550, 1600, 1650nm, TEC, SM, PM

DATASHEET

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The SLED series laser diodes are fabricated in hermetically sealed 14-pin or 8-pin butterfly packages. The laser diodes contain a monitor photodiode, thermoelectric cooler (TEC), and a thermistor to secure high-quality laser performance. Our laser products are Telcordia GR-468 qualified and in compliance with RoHS Directives. SLEDs are based on generation and amplification of spontaneous emission in a semiconductor. It emits a single mode with a wide spectrum and low coherence. SLEDs are highly susceptible to back-reflections which are amplified inside, resulting in spikes or damage to the device. For wavelength >1310nm, it contains an optical isolator inside. We produce special ultra-broadband external fiber isolators for wavelengths <1310nm. SLEDs operating in the wavelength <1400 nm are based on a bulk material with low polarization dependence, consequently offering a PM-coupled device with high polarization extinction stability. SLED operating in the 1550 and 1620 nm are based on quantum well that has a strong polarization-dependent gain.

Due to their high spatial resolution, SLEDs are widely used in interferometric sensors, such as Optical coherence tomography (OCT), Fiber sensors, Fiber Optic Gyroscope (FOG).

Features

- High Output Power
- Broad Spectrum
- Low Coherence
- Industry Standard 14-pin Butterfly Package
- High Performance
- RoHs
- Telcordia GR468

Applications

- OCT
- Fiber Gyro
- Instrument
- Fiberoptic sensors

Specifications

Parameter	Min	Typical	Max	Unit
Center Wavelength	830		1650	nm
Peak Optical Output Power	1		60	mW
Spectral Width (FWHM)		40		nm
Polarization Extinction Ratio (PM Fiber)	18	20	25	dB
Spectral Ripple			0.3	dB
Isolation >1310nm ^[1]	30			dB
Laser Forward Current(I _f)		350	600	mA
Laser Threshold Current (I _{th})		80		mA
Laser Forward Voltage (V _f)		2.5	3	V
Laser Reverse Voltage(V _{rpd})			2	V
PD Dark Current			0.1	μA
PD Forward Current			5	mA
PD Reverse Voltage			10	V
Thermistor Current	10		100	μA
Thermistor Resistance (25°C)	9.5	10	10.5	KΩ
B Constant of R _{th}	3800		4100	K
TEC Voltage(V _{tec})		1.3	3.5	V
TEC Current(I _{tec})			+1.5	A
TEC Capacity(ΔT)			50	°C
Operating Temperature(T _{op})	-20		65	°C
Storage Temperature(T _s)	-40		85	°C

[1] Build-in isolator for >1310nm. For wavelength <1310nm, we offer external isolator.



Warning: The device can be damaged by a spike in applying voltage. Do not touch by hand or use a regular power supply. The device mounted on PCB is a cost-effective OEM module for professional system integration only, not intended for laboratory use, which be a protected turn-key boxed package. Information is believed to be accurate and is subject to change without notice. Some specific combinations of options may not be available. The user assumes all risks and liability in connection with the use of a product or its application.

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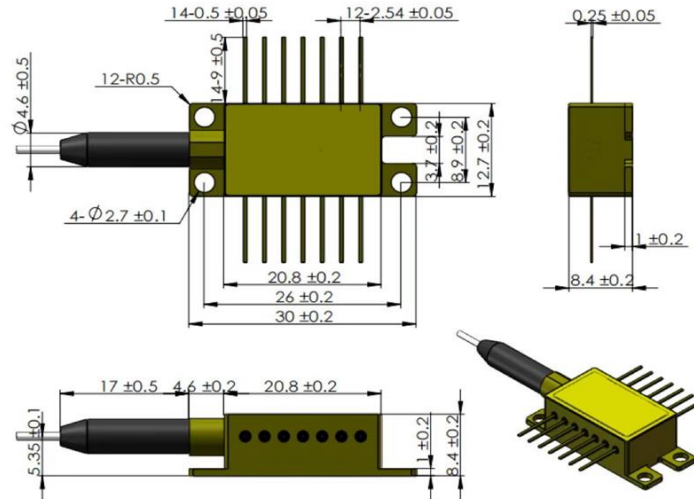
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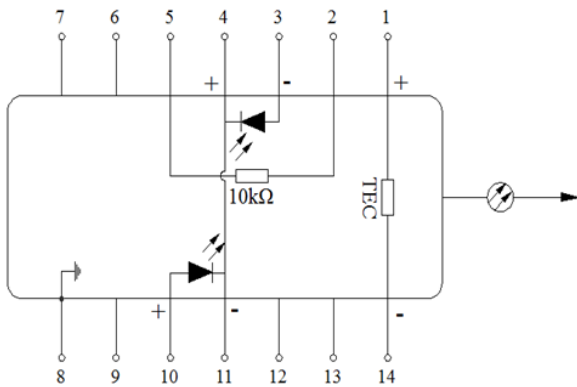
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Mechanical Dimensions (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Electrical Connection



PIN	Description	PIN	Description
1	TEC(+)	8	Case Ground
2	Thermistor	9	NA
3	MPDA(-)	10	LDA(+)
4	MPDC(+)	11	LDC(-)
5	Thermistor	12	NA
6	NA	13	NA
7	NA	14	TEC(-)

Ordering Information

Prefix	Wavelength	Output Power	Configuration	Package	Fiber Type	Fiber Buffer	Fiber Length	Connector
SLED-	830nm = 8 1060nm = 1 1310nm = 3 1450nm = 4 1550nm = 5 1600nm = 6 1650nm = 7 930nm = 9 780nm = 7 Special = 0	1mW = A1 2mW = A2 10mW = 10 12mW = 12 15mW = 15 20mW = 20 25mW = 25 27mW = 27 30mW = 30 40mW = 40 60mW = 60	Standard = 1 Polarization = 2 Special = 0	14-Pin = 1 8-Pin = 2	SM28 = 1 PM1310 = 3 PM1550 = 5 Hi1060 = 6 PM1950 = A PM980 = 9 PM850 = B SM800 = 8 780HP = 7 PM780 = C Special = 0	0.9mm Tube = 3 Bare = 4 Special = 0	0.5m = 1 1m = 2 1.5m = 3 2m = 4 Special = 0	FC/APC = 3 None = 1 FC/PC = 2 SC/PC = 3 SC/APC = 4 LC/PC = 5 LC/APC = 6 Special = 0

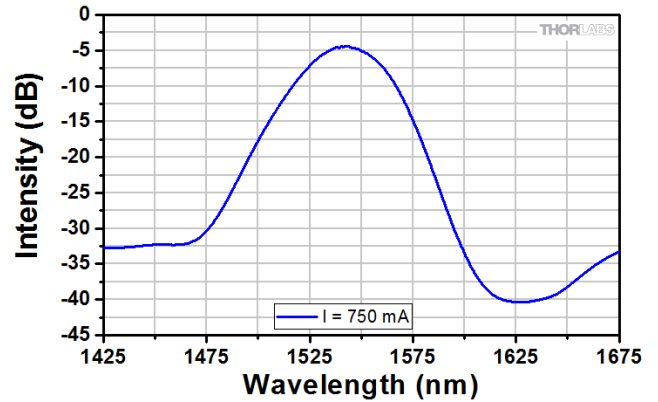
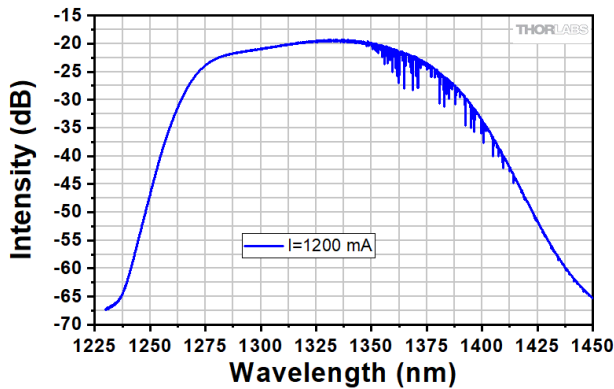
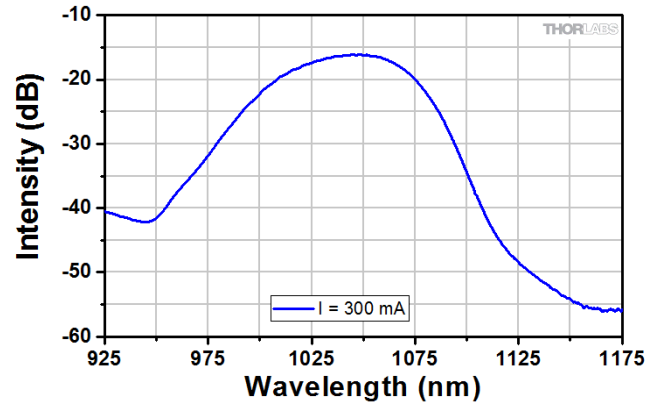
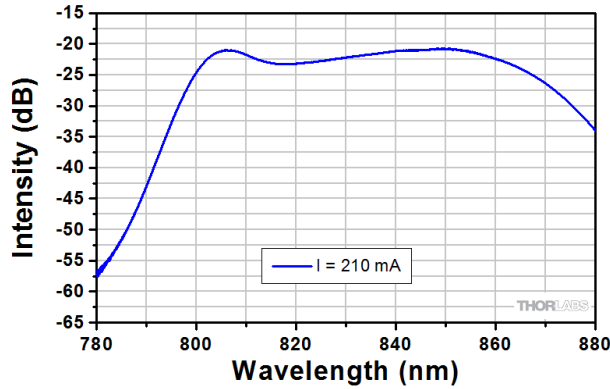
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Typical Spectrum



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Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220191. All versions of this laser are Class 1M laser products, tested according to IEC 60825-1:2007 / EN 60825-1:2007. An additional warning for Class 1M laser products. For diverging beams, this warning shall state that viewing the laser output with certain optical instruments (for example eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. For collimated beams, this warning shall state that viewing the laser output with certain instruments designed for use at a distance (for example telescopes and binoculars) may pose an eye hazard.

Wavelength = 1.3/1.5 μm . Maximum power = 30 mW.



Caution Electrostatic Sensitivity



- Never touch laser diode and the module using hands
- Always use protections when handle a laser diode
- Recommend mounting the laser diode using an ionic gun and ESD finger cots



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