Superluminescent (SLED) Light Source

Up to 30mW, 780, 830,1060,1310,1450,1550,1600,1650nm, TEC, SM, PM

DATASHEET

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The Agiltron Fiber-Coupled SLD Source is designed for easy coupling and straightforward control of a superluminescent diode (SLD). Each system is equipped with a single FC/APC connector output, and the drive electronics incorporate high-precision, low-noise auto-feedback to ensure constant output power. A temperature control unit is integrated to maintain optimal operating conditions. The user interface features an intuitive LCD display, allowing independent control of output power and temperature settings by the two front rotating knobs. The SLDS includes a universal power supply that supports operation from 100 to 240 VAC without requiring manual voltage selection, and is supplied with both US and European standard line cords. Convenient fuse access is located on the rear panel. Due to the high sensitivity of SLED to reflections, incorporating an optical isolator at the output is critical for stable, ripple-free performance. For wavelengths above 1310nm, an isolator is included, while for wavelengths below 1310nm, a special broadband matching isolator is available as an option. For added safety, the system features an emission push switch on the front panel and interlock control pins on the back. A compact module package is also available for OEM applications.

SLDs are excellent high power broadband light sources for use as ASE Light Sources and in applications like Optical Coherence Tomography (OCT) Imaging Systems and Fiber Optic Gyroscopes (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
Optical Output Power	1		30	mW
Spectral Width (FWHM)		40	85	nm
Polarization Extinction Ratio (PM Fiber)	18	20	25	dB
Spectral Ripple			0.3	dB
Isolation >1310nm [1]	30			dB
Operating Current		350	700	mA
Temperature Adjust Range	15		30	°C
Temperature Set Resolution	-0.1		0.1	°C
Noise			0.1	%
Modulation Speed (Rise/Fall Time)		1.5		µs
Modulation Input	0		5	V
Modulation Bandwidth			250	kHz
Thermistor Current	10		100	µA
Thermistor Resistance (25°C)	9.5	10	10.5	kΩ
B Constant of Rth	3800		4100	K
TEC Voltage (Vtec)		1.3	3.5	V
TEC Current (Itec)			+1.5	A
TEC Capacity (ΔT)			50	°C
Operating Temperature (Top)	-20		65	°C
Storage Temperature (Ts)	-40		85	°C

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

Rev 01/17/25

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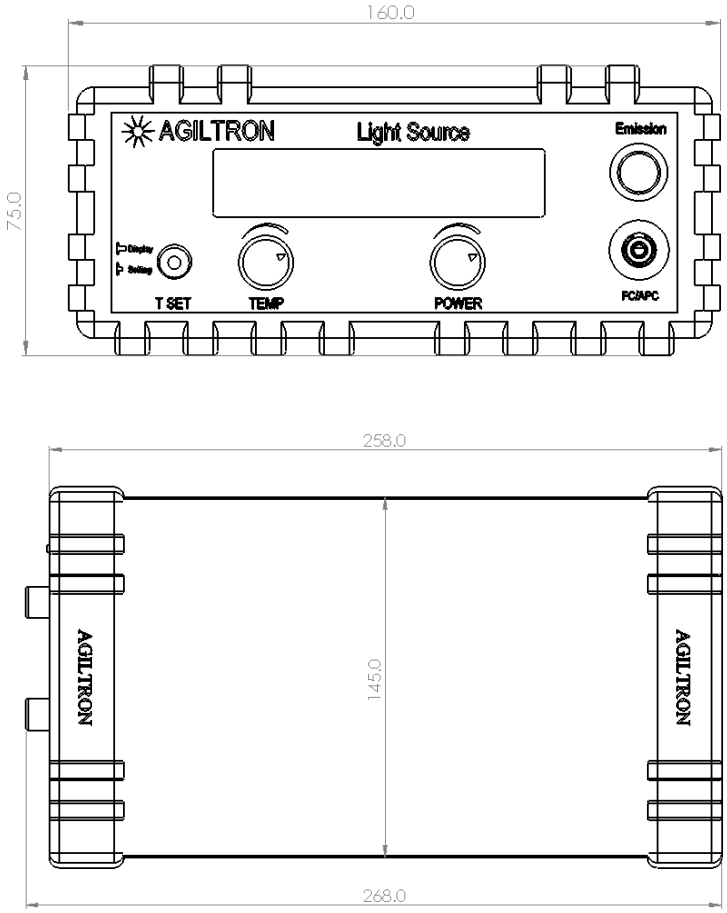
Mechanical Dimensions (mm)



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

Ordering Information

	☐	☐☐	☐	☐	☐	1	☐	☐
Prefix	**Wavelength**	**Output Power**	**Output Polarization**	**Package**	**Fiber Type**		**Configuration**	**Connector**
SEDS-	830nm = 8 1060nm = 1 1310nm = 3 1450nm = 4 1550nm = 5 1600nm = 6 1650nm = 2 930nm = 9 780nm = 7 Special = 0	1mW = A1 2mW = A2 10mW = 10 15mW = 15 20mW = 20 25mW = 25	Random = 1 Polarization Maintain = 2 Special = 0	Benchtop = 1 Module = 2	SM28 = 1 PM1310 = 3 PM1550 = 5 Hi1060 = 6 PM1950 = A PM980 = 9 PM850 = B SM800 = 8 780HP = 7 PM780 = C Special = 0		Standard = 1 Special = 0	FC/APC = 3 Special = 0

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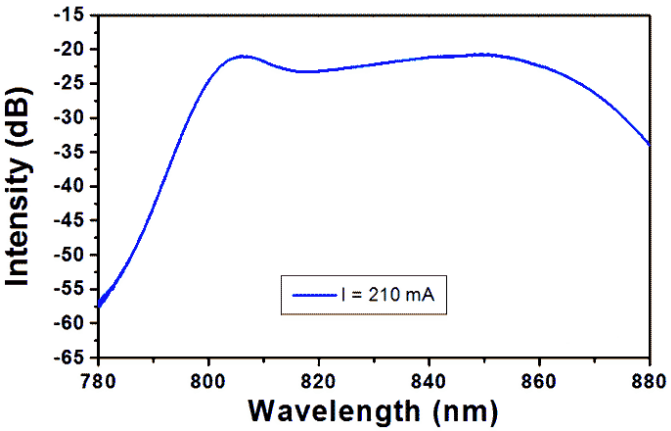
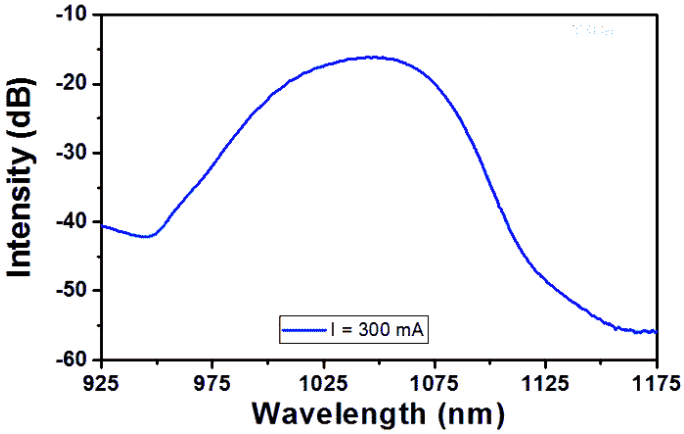
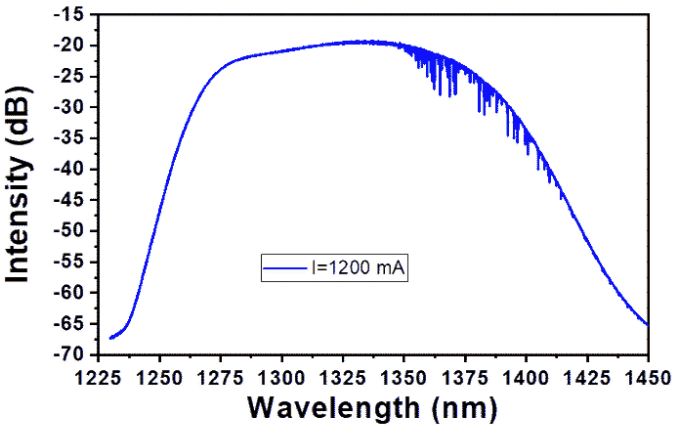
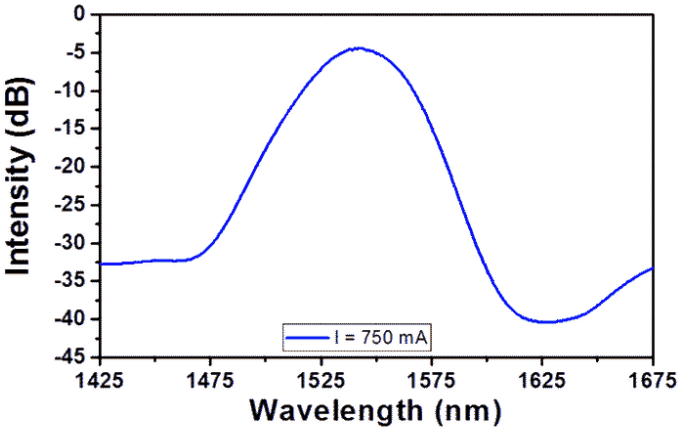
Typical Spectrum

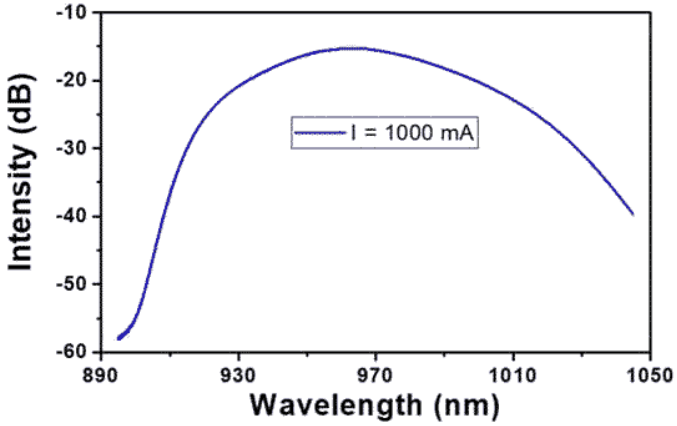








Typical Emission Spectrum



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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 = 50 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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