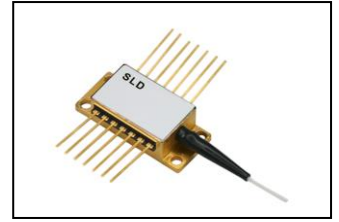


Superluminescent diodes are semiconductor emitters that combine the high brightness of laser diodes with a broad spectrum of LEDs. They are light sources of choice for numerous applications based on low coherence measurements like Optical Coherence Tomography, spectroscopy, low speckle illumination, and others. Superlum offers a wide range of SLD modules and SLD-based light sources. Please also check our SLD controllers and light source modules to ensure safe and stable SLD operation in your system.



Specifications – Optical Parameters

Parameter	MIN	TYP	MAX
S650.7.1			
Output power, P_{op} , ex SM fiber, mW, SLD chip at 25 °C	1.0	1.5	–
S650.7.3			
Output power, P_{op} , ex SM fiber, mW, SLD chip at 25 °C	3.0	4.0	–
S650.7.1 and S650.7.3			
Forward current at P_{op} , mA	–	150	170
Central wavelength at P_{op} , nm	645	653	660
Spectrum width at P_{op} , FWHM, nm	6	7	–
Residual spectral modulation depth [†] at P_{op} , %	–	–	2.0
Secondary coherence subpeaks ^{††} at P_{op} , dB (10 log)	–	-25	-20
Slow / fast polarization ratio (PM modules) at P_{op} , dB	–	10	–
PD monitor current ^{†††} at P_{op} , mA	0.05	–	–

[†] - rated at P_{op} , decreases proportional to operating power
^{††} - **direct measurements by Michelson interferometer**, at P_{op} , lower at lower power
^{†††} - at 5 V reverse bias

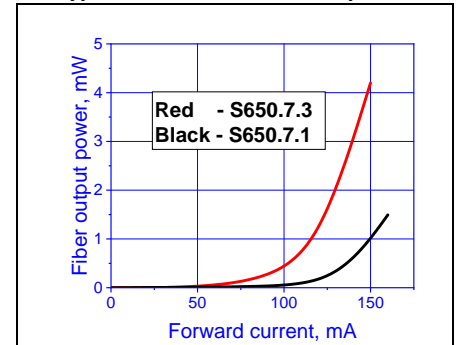
Other Parameters

SLD forward voltage at P_{op} , V	–	–	2.6
PD monitor bias voltage, V	–	–	5.0
Operating temperature at P_{op} , °C	-20	–	+65
Storage temperature at P_{op} , °C	-40	–	+85
Cooler current, A	–	–	2.5
Cooler current, V	–	–	3.2
Thermistor BETA, K	–	3892	–
Thermistor Resistance at 25 °C, kΩ	–	10	–

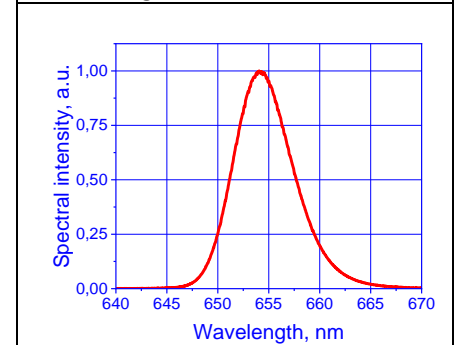
Applications

SLDs S650.7.1 and S650.7.3 extend Superlum’s “red wavelength” SLD product line to 650 nm, thus allowing our customers more freedom in selecting SLDs matching all other system requirements in the best possible way.

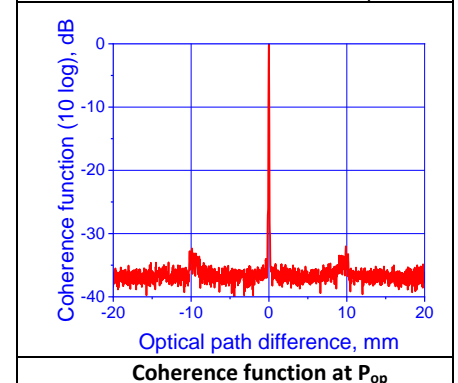
Typical Performance Examples



Light-current characteristic



Optical spectrum at P_{op}



Coherence function at P_{op}

The following marking should be used for ordering:

P/N (fiber type)

Examples : **S650.7.3S** – as rated above, SMF pigtail, FC/APC; **S650.7.3P** – as rated above, PMF pigtail, FC/APC.

MMF pigtailed SLDs are available upon request. Modules will be shipped FC/APC finished if not specified otherwise in the PO. SLDs with LC/APC finished fiber pigtails are available upon request.

Superlum offers customization of its products to fit the requirements of every Customer. Please get in touch with us for more details before ordering if you need customer-specific SLD parameters.