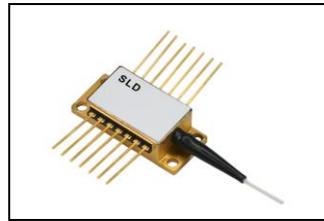


Superluminescent diodes are semiconductor emitters that combine the high brightness of laser diodes with a broad spectrum of LEDs. They are light sources of choice for numerous applications based on low coherence measurements, such as Optical Coherence Tomography, spectroscopy, low speckle illumination, 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
<b>S670.7.15</b>			
Output power, $P_{op}$ , ex SM fiber, mW, SLD chip at 25 °C	–	–	15
Forward current at max. $P_{op}$ , mA	–	180	220
Central wavelength at max. $P_{op}$ , nm	660	670	680
Spectrum width at max. $P_{op}$ , FWHM, nm	6	7	–
Residual spectral modulation depth <sup>†</sup> at max. $P_{op}$ , %	–	–	2.0
Secondary coherence subpeaks <sup>††</sup> at max. $P_{op}$ , dB (10 log)	–	-25	-20
Slow / fast polarization ratio (PM modules) at max. $P_{op}$ , dB	–	10	–
PD monitor current <sup>†††</sup> at max. $P_{op}$ , mA	0.1	–	–

<sup>†</sup> - rated at max.  $P_{op}$ , decreases proportional to operating power

<sup>††</sup> - direct measurements by Michelson interferometer, at max.  $P_{op}$ , lower at lower power

<sup>†††</sup> - at 5 V reverse bias

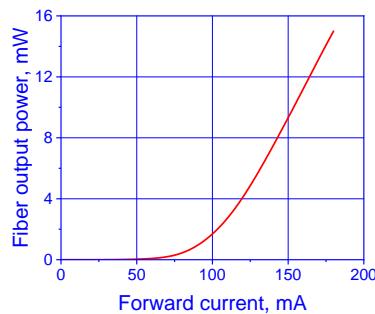
#### Other Parameters

Parameter	MIN	TYP	MAX
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	–

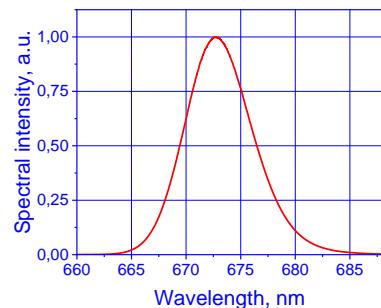
#### Applications

SLDs S670.7.15 had been developed specifically for applications requiring the most powerful low-coherence and high-brightness light sources at a visible wavelength. Please note that they are sensitive to optical feedback, which must never exceed 1E-3 for safe and stable SLD operation. Please check our cBLMD compact modules and M-S benchtop systems if you are looking for a fully protected, optically isolated, plug-n-play powerful SLD light source at 670 nm.

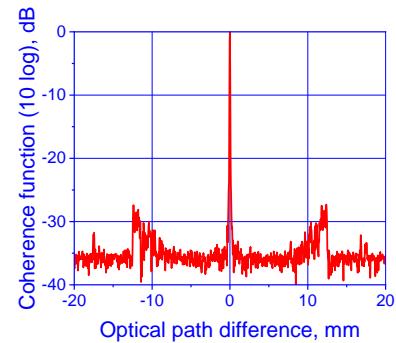
#### Typical Performance Examples



Light-current characteristic



Optical spectrum at 15 mW



Coherence function at 15 mW

#### The following marking should be used for ordering:

P/N (fiber type)

Examples : **S670.7.15S** – as rated above, SMF pigtail, FC/APC; **S670.7.15P** – 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 pigtailed 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.