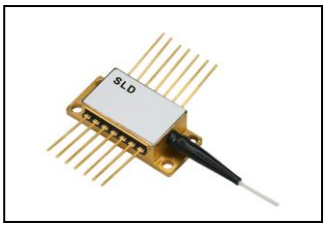
SUPERLUM — Very High Power SLD modules at 780 nm band type S780.14.30

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
S780.14.30			
Output power, P_{op}, ex SM fiber, mW, SLD chip at 25 °C	–	–	30
Forward current at max. P_{op}, mA	–	300	400
Central wavelength at max. P_{op}, nm	770	780	790
Spectrum width at max. P_{op}, FWHM, nm	12	14	–
Residual spectral modulation depth† at max. P_{op}, %	–	2.0	5.0
Secondary coherence subpeaks†† at max. P_{op}, dB (10 log)	–	-25	-20
Slow / fast polarization ratio (PM modules) at max. P_{op}, dB	–	10	–
PD monitor current††† at max. P_{op} ,mA	0.5	–	–

† - rated at max. P_{op} , decreases proportional to operating power

†† - **direct measurements by Michelson interferometer**, at max. P_{op}, lower at lower power

††† - at 5 V reverse bias

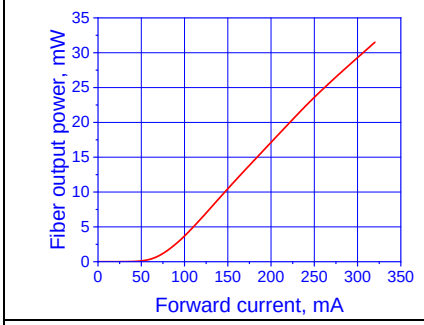
Other Parameters

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	–

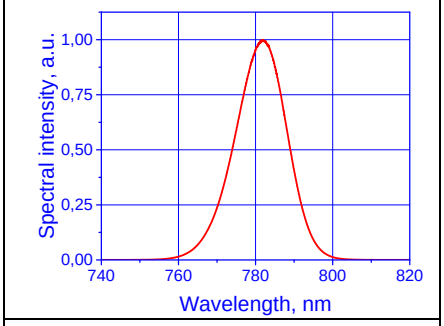
Applications

SLDs S780.14.30 have been specifically developed for applications that require powerful low-coherence and high-brightness light sources at NIR wavelengths. Please note that these devices are sensitive to optical feedback, which must not exceed 1E-3 to ensure safe and stable operation. If you are looking for a fully protected, optically isolated, plug-and-play powerful SLD light source operating at 780 nm, please check out our SLD-cBLMD compact modules and M-S benchtop systems.

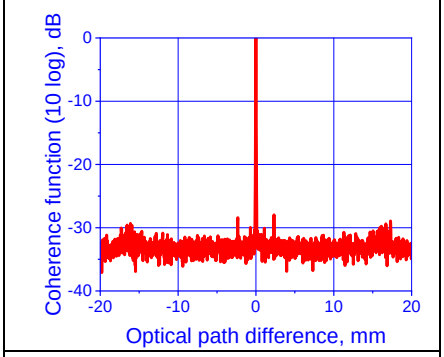
Typical Performance Examples



Light-current characteristic



Optical spectrum at 30 mW



Coherence function at 30 mW

The following marking should be used for ordering:

P/N (fiber type)

Examples : S780.14.30S – as rated above, SMF pigtail, FC/APC; **S780.14.30P** – 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.