

Superluminescent Diodes are semiconductor emitters combining 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, 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 (Nominal Emitter Stabilization Temperature +25 °C)**

Parameter	MIN	TYP	MAX
<b>S970.25.40</b>			
Output power, P <sub>op</sub> , ex SM fiber, mW	–	–	35.0
Forward current at P <sub>op</sub> , mA	–	500	600
Central wavelength at P <sub>op</sub> , nm	960	970	980
Spectrum width at P <sub>op</sub> , FWHM, nm	22	25	–
Residual spectral modulation depth <sup>†</sup> at P <sub>op</sub> , %	–	–	5.0
Secondary coherence subpeaks <sup>††</sup> at P <sub>op</sub> , dB (10 log)	–	-20	-18
Slow / fast polarization ratio (PM modules) at P <sub>op</sub> , dB	–	15	–
PD monitor current <sup>†††</sup> at P <sub>op</sub> , mA	1.0	–	–
<b>S980.12.50</b>			
Output power, P <sub>op</sub> , ex SM fiber, mW	–	–	50.0
Forward current at P <sub>op</sub> , mA	–	500	600
Central wavelength at P <sub>op</sub> , nm	970	980	990
Spectrum width at P <sub>op</sub> , FWHM, nm	10	12	–
Residual spectral modulation depth <sup>†</sup> at P <sub>op</sub> , %	–	–	5.0
Secondary coherence subpeaks <sup>††</sup> at P <sub>op</sub> , dB (10 log)	–	-20	-18
Slow / fast polarization ratio (PM modules) at P <sub>op</sub> , dB	–	15	–
PD monitor current <sup>†††</sup> at P <sub>op</sub> , mA	1.0	–	–

<sup>†</sup> - rated at P<sub>op</sub>, decreases proportional to operating power

<sup>††</sup>- direct measurements by Michelson interferometer, rated at P<sub>op</sub>, lower at lower power

<sup>†††</sup>- at 5 V reverse bias

**Attention: all parameters are measured at optical feedback not exceeding 1E-3**



**Features**

- Up to 50 mW output power
- Two models with different width of spectrum
- Butterfly packaged with cooler and thermistor
- SMF or PMF pigtailed
- FC/APC connectors, LC/APC upon request

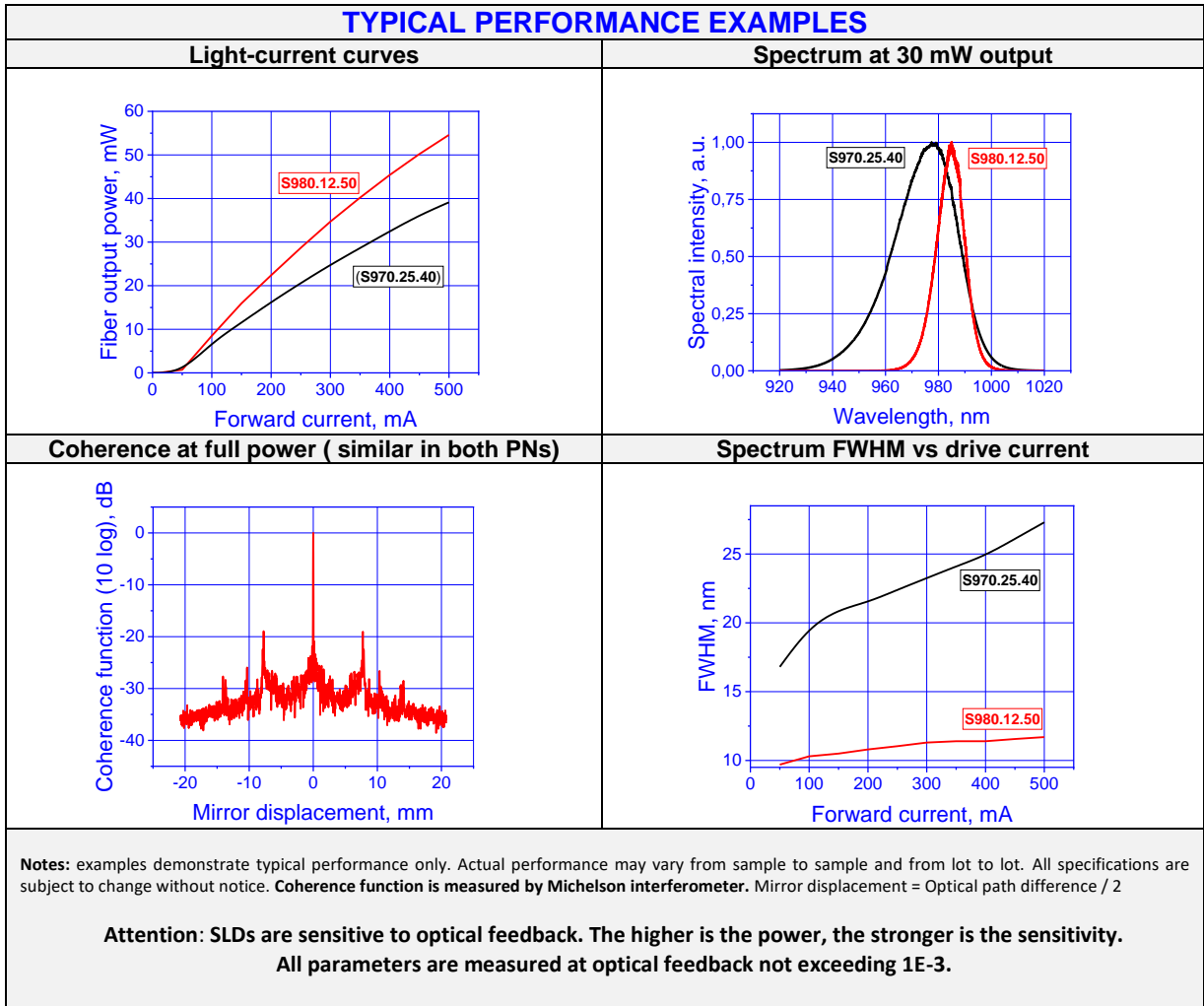
**Applications**

- optical sensors
- optical metrology
- low coherence interferometry
- spectroscopy

**Other parameters – all models**

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

**TYPICAL PERFORMANCE EXAMPLES**



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

**P/N(type of fiber)**

**Examples :** S970.25.40S – as rated above, SMF pigtail, FC/APC; S980.12.50P – 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.

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.