



**SUPERLUM**  
The driving pulse of SLD technology

SUPERLUM is the industry leading manufacturer of state-of-the-art, ultimate quality superluminescent diodes and light sources, semiconductor optical amplifiers and tuneable swept lasers

## NEW SLD125

### The First Superluminescent Diode Modules Operating From -40 °C to +125 °C Case Temperature

#### Preliminary Product Information

Superlum introduces new SLDs at 850 nm suitable for operation in the temperature range from -40 °C to +125 °C. Modules are butterfly packaged and contain internal TEC, thermistor and PD monitor. SLDs are stabilized at +65 C inside the package.

Two different P/Ns are available, SLD-125P845 emitting up to 7.5 mW SMF power, and SLD-125W850 with 3 dB spectrum width exceeding 45 nm.

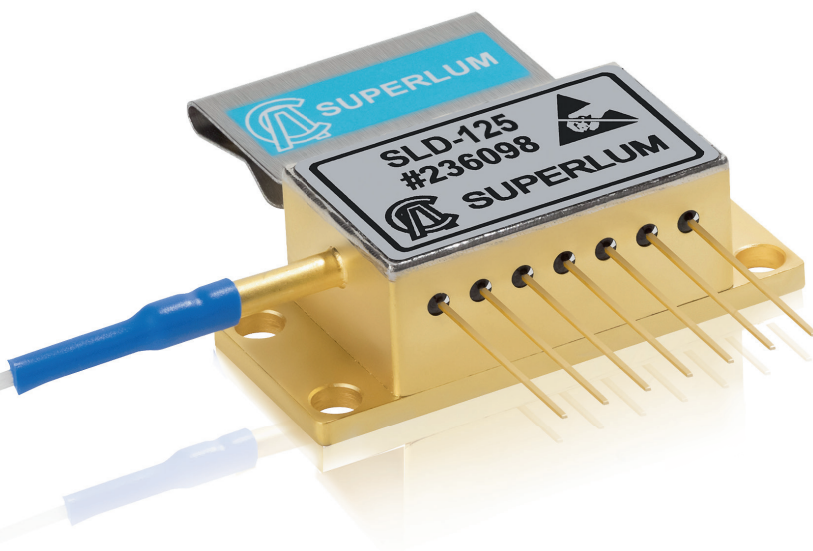
SLD chips used in the modules explore the most recent advances of development of SLDs by Superlum.

SLD emitters used in SLD-125P845 are based on specially designed MQW structure allowing very high output power and its low dependence on SLD chip temperature. This results in a higher power at relatively low drive current in such SLDs at elevated SLD chip temperature. Expected lifetime of these SLDs exceeds 10,000 operating hours. Up to 10 mW fiber output may be available upon request.

SLD emitters used in SLD-125W850 are based on our SLD-37 devices with 50 nm wide SLD spectrum. Operating lifetime of these SLDs exceeds 8,000 h at +65 °C.

Special completely new assembling technology ensures excellent stability of coupling. SLD output power variation in ACC mode is typically less than 10% when SLD case temperature changes from -40 °C to +125 °C, that corresponds to typical tracking error of 0,5 dB and less in the entire operating temperature range.

The technology developed may be also used for assembling of other types of SLDs and also Laser Diodes upon request. The technology may be used for assembling of uncooled fiber pigtailed modules as well.



#### Features

- New interior module design
- New 850 nm SLD emitters inside
- -40 °C to +125 °C range
- High output power
- Narrow or wide optical spectrum
- Custom models available

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## Main optoelectrooptical parameters – SLD-125P845

Parameter	Min.	Typ.	Max.
Output power, $P_{op}$ , ex SM fiber, mW	5.0	7.5	-
Forward current at $P_{op}$ , mA	-	200	250
Forward voltage at $P_{op}$ , V	-	2.2	2.7
Mean wavelength* at $P_{op}$ , nm	830	845	860
Spectrum width at $P_{op}$ , FWHM, nm	9	10	-
Residual spectral modulation depth at $P_{op}$ , %	-	1.0	2.0
Secondary coherence subpeaks at $P_{op}$ , dB (10 log)	-	<-20	-

## Main optoelectrooptical parameters – SLD-125W850

Parameter	Min.	Typ.	Max.
Output power, $P_{op}$ , ex SM fiber, mW	3.0	3.5	-
Forward current at $P_{op}$ , mA	-	220	250
Forward voltage at $P_{op}$ , V	-	2.2	2.7
Mean wavelength* at $P_{op}$ , nm	835	850	865
Spectrum width at $P_{op}$ , FWHM, nm	45	55	-
Residual spectral modulation depth at $P_{op}$ , %	-	1.0	2.0
Secondary coherence subpeaks at $P_{op}$ , dB (10 log)	-	<-20	-

## Main optoelectrooptical parameters – SLD-125W850

Parameter	Min.	Typ.	Max.
Operating temperature† at $P_{op}$ , °C	-40	-	+125
Storage temperature at $P_{op}$ , °C	-40	-	+125
PD monitor photocurrent at $P_{op}$ , $\mu$ A	100	-	-
Thermistor at +65 C, kOhm	-	1.25	-
Thermisor BETA	-	3890	-
Cooler current, A	-	-	1.2
Cooler voltage, V	-	-	3.5

\*Note – All Specifications above are preliminary and are subject to change without notice