

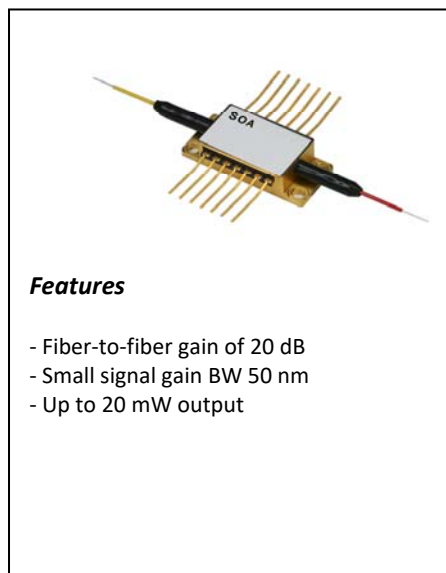
Superlum's A840.50.20 semiconductor optical amplifiers are multi-purpose devices which are good for various applications including amplification of small optical signals over very wide spectral range, building of widely tunable external and ring cavity lasers and sweepers, and boosting of their output to up to 20 mW.

A840.50.20 SOAs are butterfly packaged with internal TEC and thermistor for temperature stabilization of SOA chips. PM fibers are used as a standard, SM fibers may be used upon request.

Specifications (Nominal Stabilization Temperature +25 °C)

Parameter	MIN	TYP	MAX
A840.50.20			
Forward current [†] , I _{typ} , mA	–	150	250
Center wavelength ^{††} , nm	830	840	850
Small signal fiber-to-fiber gain ^{††} , dB	18	23	–
Small signal gain bandwidth ^{††} , FWHM, nm	40	50	–
Gain ripple ^{†††} , dB	–	0.2	0.5
Maximum output power ^{††††} , mW	–	–	20
Slow / fast polarization ratio (PM modules) at P _{op} , dB	–	7	–

† - typical value to achieve widest small signal gain bandwidth
 †† - at I_{typ}
 ††† - depends on gain, higher at higher gain
 †††† - in any operating mode



Features

- Fiber-to-fiber gain of 20 dB
- Small signal gain BW 50 nm
- Up to 20 mW output

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

- Active media for tunable lasers
- Active media for swept sources
- Power boosting

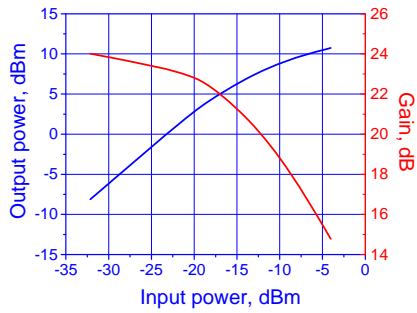
The following marking should be used for ordering:

A840.50.20P– as rated above, PMF pigtail, FC/APC

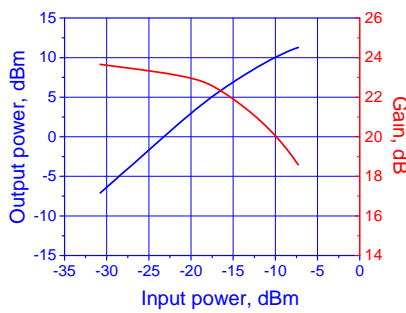
SMF pigtailed SOAs are available upon request. Modules will be shipped FC/APC finished if not specified otherwise in the PO.

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 SOA parameters.

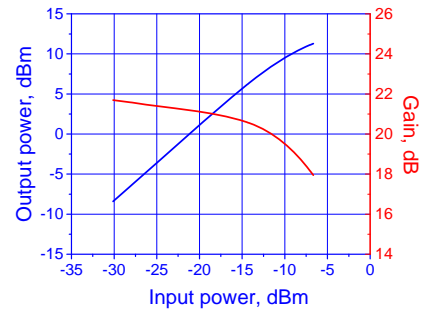
TYPICAL PERFORMANCE EXAMPLES



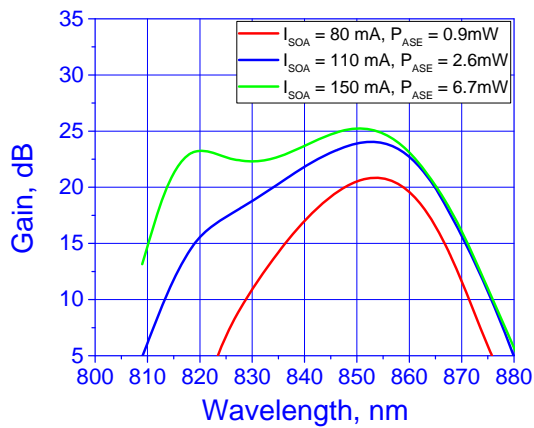
Fiber-to-Fiber gain at 815 nm, 150 mA



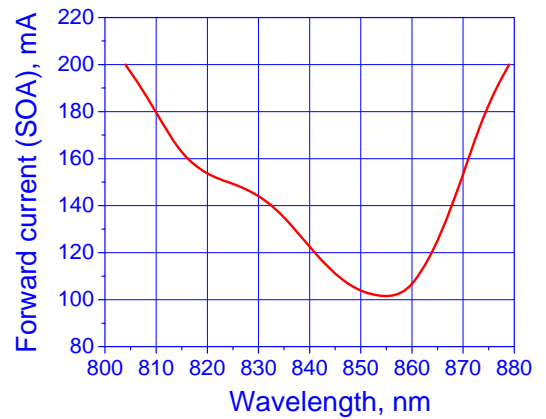
Fiber-to-Fiber gain at 840 nm, 150 mA



Fiber-to-Fiber gain at 865 nm, 150 mA



Small signal gain spectrum at different drive currents



Drive current, 20 mW output, 1 mW input

Note: examples demonstrate typical performance only. Actual performance may vary from sample to sample and from lot to lot. All specifications are subject to change without notice.