

## ProLite® SF Series

### Fiber Coupled, Single Emitter Diode Lasers



#### The ProLite SF Series Advantage

- Up to 5 W CW power for high brightness
- Compact and user-friendly platform for easy integration into a wide range of products
- Multiple wavelength ranges available from 780 nm to 980 nm for application flexibility
- Expected lifetimes over 10,000 hours
- High brightness from 40, 60, 100 or 200  $\mu\text{m}$  fibers for high power density at the work piece

Designed primarily for the OEM market, the Oclaro™ ProLite® SF series products are high-power, multi-transverse-mode, single-emitter diode lasers, efficiently coupled to a small-core, low-numerical-aperture optical fiber. This makes ProLite SF diode lasers easy to use and service in the field because there is no need to realign the systems when changing the diode laser. A compact package form makes the ProLite SF diode lasers easy to integrate.

The reliable ProLite SF diode lasers deliver very bright fiber output that results in increased power density at the work piece. This high power density makes the ProLite SF diode lasers useful for computer-to-plate applications, skin treatments, or for pumping another laser media.

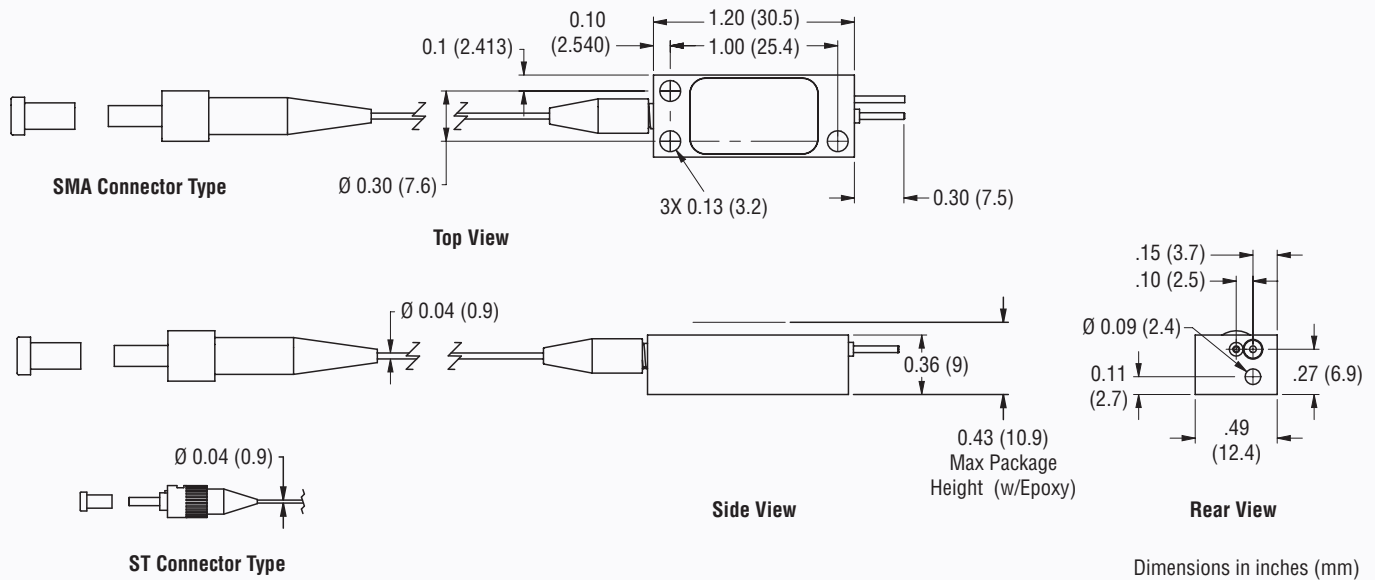
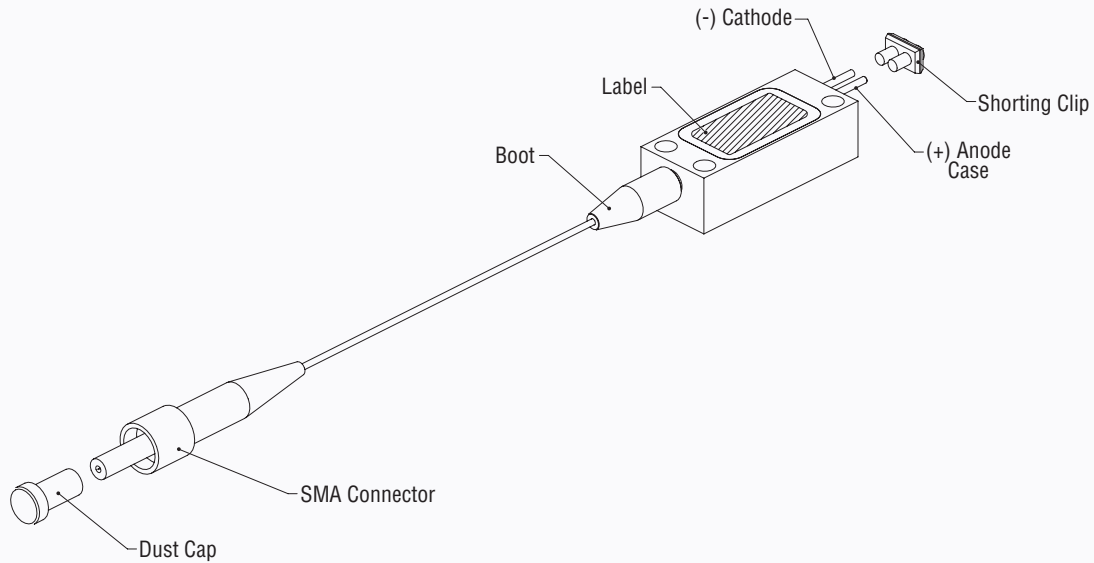
For more OEM flexibility, ProLite SF products are offered with two standard fiber connector options—ST and SMA.

Designed and built to meet specific customer requirements, ProLite SF diodes use a variety of materials including phosphorous-based, or aluminum-free, to provide the optimum combination of performance and cost effectiveness for each customer.

#### Applications

- Solid-state laser pumping
- Reprographics/Printing
- Material processing
- Medical/Life and health sciences
- Illumination
- Defense

# SF Fiber Coupled Single Emitter



## Specifications

Output Characteristics	SFB040-830-H1-01A	SFB060-830-P1-01A	SFB100-810-D2-01A	SFA200-808-Z5-01A
Type of Connector	ST	ST	ST	SMA
Wavelength <sup>1</sup>	830 ±10 nm	830 ±10 nm	808 ±3 nm or 810 ±10 nm	808 ±3 nm
Typical Spectral Width (FWHM)	4 nm	4 nm	3.5 nm	2.5 nm
Spectral Width (FWHM)	10 nm	10 nm	5 nm	3.5 nm
Output Power P <sub>o</sub> <sup>2</sup>	0.40 W	0.70 W	1.20 W	5.0 W
Operating Current I <sub>op</sub> <sup>3</sup>	0.70 A	1.15 A	1.85 A	7.0 A
Maximum Operating Current I <sub>op</sub>	0.80 A	1.25 A	2.10 A	7.50 A
Threshold Current I <sub>th</sub> <sup>4</sup>	0.14 A	0.17 A	0.32 A	0.95 A
Maximum Threshold Current I <sub>th</sub>	0.20 A	0.30 A	0.50 A	1.20 A
Fiber Core Diameter	40 μm	60 μm	100 μm	200 μm
Fiber Length	32 cm, Typical	32 cm, Typical	32 cm, Typical	46 cm, Typical

### General Specifications

#### Optical

Typical Conversion Efficiency	37% @ I <sub>op</sub>
Typical Slope Efficiency	0.75 W/A
Fiber Numerical Aperture	0.22
Typical Beam Divergence (FWHM)	0.08 NA
Typical Beam Divergence (90% total power)	0.15 NA

#### Electrical

Maximum Operating Voltage	2.1 V
Maximum Reverse Voltage	3 V
Maximum Negative Current Transient	25 μA

#### Mechanical

Housing Dimension	See Drawing
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#### Environmental

Typical Thermal Resistance	13°C/W
Operating Temperature Range	20°C to 35°C, 25°C recommended
Operating Humidity	Non-condensing
Storage Temperature Range	-30°C to 60°C

- Centroid wavelength @ 25°C case temperature
- Minimum optical output power at I<sub>op</sub>
- Typical operating current required to achieve P<sub>o</sub>
- Typical threshold current  
Typical wavelength temperature coefficient: 0.21 nm/°C  
Other wavelengths available between 780–980 nm upon request