

# BDL and BFP

## Fiber Coupled Diode Laser Modules



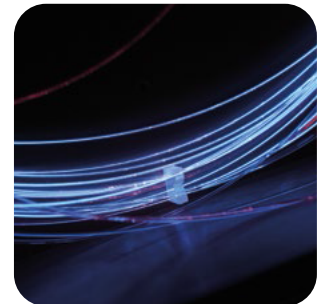
### Features

- 5W to 400W CW
- Up to 2 kW Pulsed Operation
- 100 to 600 $\mu$ m
- Smallest Footprint
- Conduction Cooled
- Long Lifetime
- Multi-wavelength
- Custom Mil-spec Solutions



### Applications

- Solid-state Laser Pumping
- Fiber Laser Pumping
- Medical Lasers
- Material Processing
- Illumination
- Instrumentation
- Ranging



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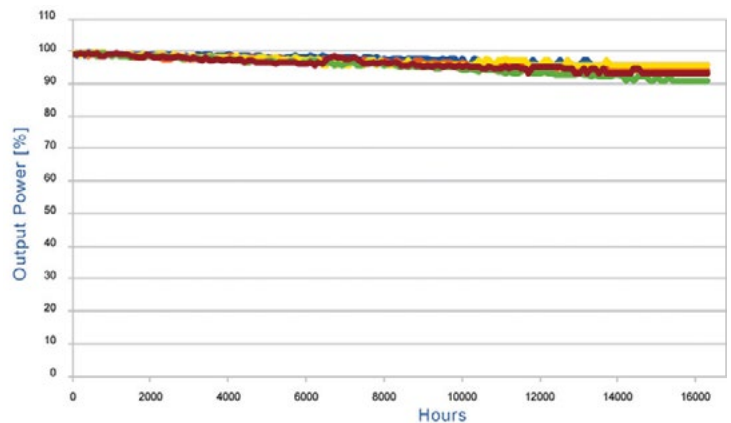
BDL and BFP diode laser modules are based on diode arrays and multi-single emitter design respectively and they can be configured for offering a wide range of available wavelengths and power levels. They can operate both in CW mode and in pulsed mode.

The integrated optical design, accurate test and selection of high quality semiconductor materials and efficient thermal management make these devices the ideal choice for applications requiring reliability, long lifetime and simple conductive cooling in a small footprint.

BDL packages are coupled to standard SMA patch cables; custom pigtailed or free space collimated output are also available. Five standard packages (A, D, E, F and K) can be provided with different output power and options, as described in the table below.

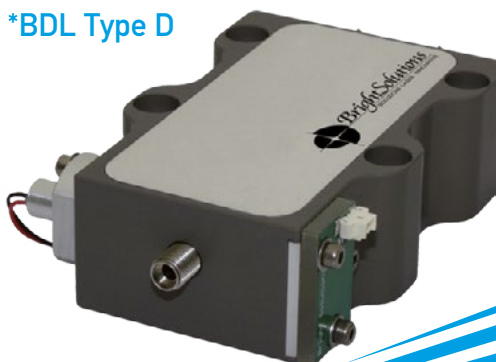
**OPTIONS AVAILABLE:**

- Red aiming beam
- Monitoring photodiode
- Fiber presence sensor
- Integrated TE coolers
- Custom fiber optics and connectors
- Integrated current and temperature control



Available Standard Package	BDL A	BDL D	BDL E	BDL F	BDL K
Max CW Output power	45 W		90 W	150 W	200 W
Center wavelengths	808 - 88X - 915 - 940 - 976 - 980 - 1064 nm				
Central wavelength tolerance	1 to 10 nm				
Spectral width (FWHM)	1 to 5 nm				
Fiber connector	SMA 905 (option: FC - ST - Custom Patch Cable and Pigtail)				
Fiber Core Diameter	200 - 400 - 600 - 800 um				
Fiber NA	0.22 or 0.15				
Operating temperature	15 to 35° (option: extended operating range)				
Storage temperature	-20 to 60° (option: extended operating range)				
Built-in Thermistor	NTC - 10 kOhm - 25° C				
Cooling	Conductive (option: water cooled)				
Electro-optical efficiency	Up to 45%				

\*BDL Type D



# BDL

High Power Fiber Coupled Laser Diodes

# BFP

## High Brightness Fiber Coupled Laser Diodes



Available Standard Package	BFP1	BFP2	BFP4	BFP3P	BFP6P
Max CW Output power	11 W	20 W	35 W	25 W	50 W
Center wavelengths	808 - 88X - 915 - 940 - 976 - 980 - 1064 nm				
Central wavelength tolerance	1 to 10 nm			1 to 3 nm	
Spectral width (FWHM)	1 to 5 nm				
Multiwavelength configuration	YES			NO	
Fiber connector	SMA 905 (option: FC - ST - Custom Patch Cable and Pigtail)				
Fiber Core Diameter	100 - 200 - 400 - 600 $\mu$ m			100 - 200 $\mu$ m	
Fiber NA	0.22 or 0.15				
Operating temperature	15 to 35° (option: extended operating range)				
Storage temperature	-20 to 60° (option: extended operating range)				
Built-in Thermistor	NTC - 10 kOhm - 25° C				
Cooling	Conductive (option: water cooled)				
Electro-optical efficiency	Up to 45%				



BFP modules are particularly suited for pumping applications, ensuring very long lifetime, low current operation and the highest brightness in a miniaturized package; they can be coupled to standard optical connectors and can include a variety of accessories from aiming beam to integrated controllers, aimed to medical, industrial, scientific and aerospace direct applications. Customized Mil spec models can be designed, manufactured and qualified.

Multi-wavelength solutions (MDL) are well suited for a variety of medical applications; up to four different wavelengths can be available in one module. Models with free-space collimated or line-shaped output are also available.

### \*2kW - 915nm Pulsed Module



## Sol



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## Wedge



## Onda



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