



## HBFC915P10W

### High Brightness 915nm 10W Fiber Coupled Laser Diode

#### Overview

The HBFC915P10W laser diode is a 915nm multimode fiber-coupled laser diode that offers high brightness with up to 10W of optical power output with a 105um core optical fiber. Compact yet reliable, it is in an air-cooled package with isolated electrical pins to ensure user-friendliness. The laser diode is the most cost-effective solution for pumped Yb-doped fiber lasers, with special features in fiber laser pumping, materials processing (hardening, cladding, welding) and medical/aesthetics.

#### Features

- Single emitter-based laser diode module
- 915nm wavelength
- 10W output power
- 0.22NA, 105um fiber core diameter

#### Applications

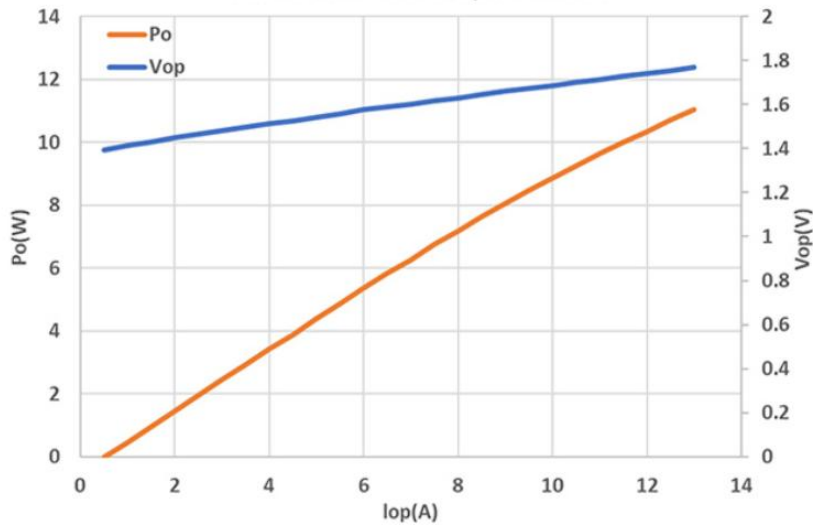
- Direct processing
- Fiber laser pumping
- Medical
- Analysis

#### Specifications

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Output power	P <sub>O</sub>	10		W
Forward current	I <sub>OP</sub>		12	A
Reverse voltage	V <sub>RVS</sub>		2	V
Case operating temperature	T <sub>OP</sub>	5	35	°C
Storage temperature	T <sub>STG</sub>	-40	85	°C

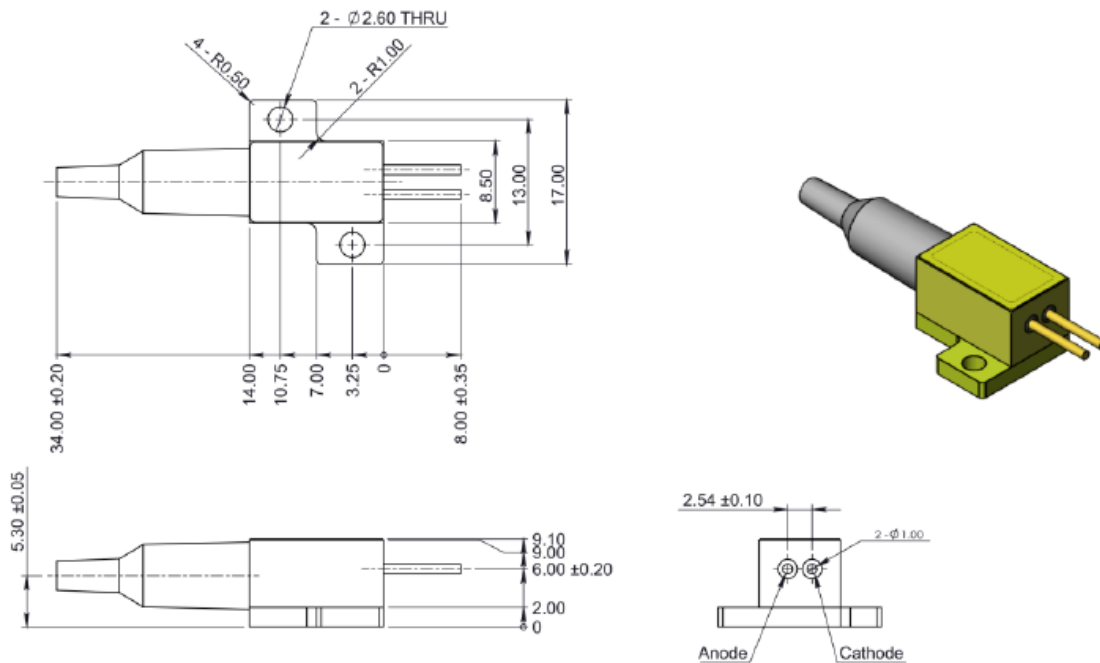
ELECTRICAL-OPTICAL CHARACTERISTICS (TOP = 25°C)					
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Output power	P <sub>O</sub>	10			W
Center wavelength	λ <sub>c</sub>	905	915	925	nm
Spectral width (FWHM)	Δλ		3		nm
Spectral temperature shift	Δλ/ΔT		0.3		nm/°C
Wavelength shift with current	Δλ/ΔA		0.7		nm/A
Electrical-to-optical efficiency	PE	45	50		%
Threshold current	I <sub>th</sub>		0.55		A
Operating current	I <sub>OP</sub>		11.5	12	A
Operating voltage	V <sub>OP</sub>		1.75	1.85	V
Slope efficiency	η		0.9		W/A
Core diameter	D <sub>core</sub>		105		um
NA	NA		0.22		
Cladding diameter	D <sub>clad</sub>		125		um

Typical Characteristics



Outline Dimensions (unit: mm)

Dimensional tolerances:  $\pm 0.1\text{mm}$





## Additional Notes

- The HBFC915P10W laser diodes are designated solely as OEM components for incorporation into the customer's end products. Therefore, it is the customer's responsibility to comply with the appropriate requirements of FDA 21CFR, section 1040.10 and 1040.11 for complete laser products. For the code of FDA regulations, please refer to [FDA Performance Standards for Light-Emitting Products](#) for detailed information.
- Avoid eye and skin exposure to direct radiation during operation.
- ESD precautions must be taken during storage, transportation and operation. For ESD precaution, short-circuit is required between pins during storage and transportation.
- Soldering point should be close to the root of the pins. Soldering temperature should be lower than 260°C and time shorter than 10 seconds. Use a transformer to reduce the secondary voltage and ground the tip of the soldering iron.
- Make sure that the fiber output end is properly cleaned before operation of laser. Follow safety protocols to avoid injury when handling and cutting the fiber.
- Specifications are subject to change without notice.