



HBFC976P15W

976nm 15W Fiber Coupled Diode Laser Module

Data Sheet

Overview

The HBFC976P15W laser diode is a 976nm multimode fiber-coupled laser diode that offers high brightness with up to 15W 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, direct diode material processing, bio-medical and analysis applications.

Features

- Single emitter-based laser diode module
- 976nm wavelength
- 15W output power
- 0.22NA, 105um fiber core diameter

Applications

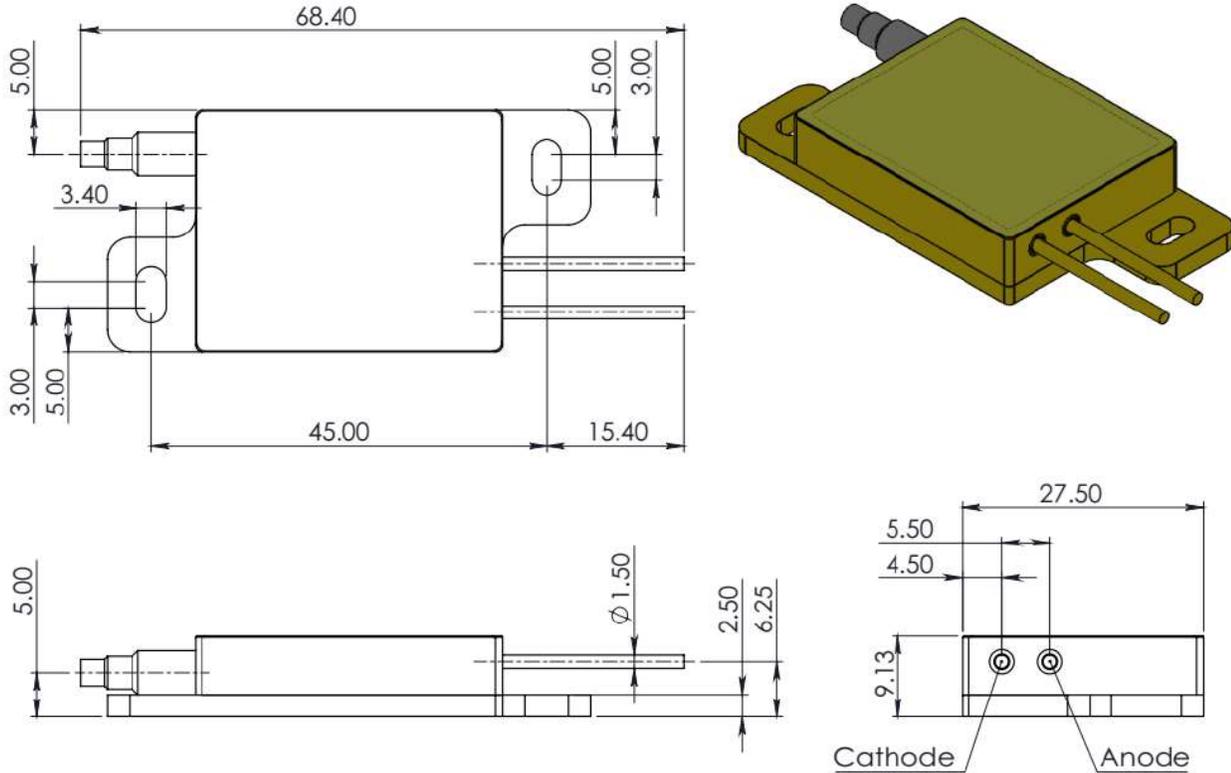
- Direct diode material processing
- Fiber laser pumping
- Bio-medical
- Analysis

Specifications

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Output power	P_o		17	W
Forward current	I_{OP}		11	A
Reverse voltage	V_{rvs}		2	V
Case operating temperature	T_{op}	5	40	°C
Storage temperature	T_{stg}	-40	85	°C

ELECTRICAL-OPTICAL CHARACTERISTICS ($T_{OP} = 25^{\circ}C$)					
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Output power	P_o	15			W
Center wavelength	λ_c	966	976	986	nm
Spectral width (FWHM)	$\Delta\lambda$		3		nm
Spectral temperature shift	$\Delta\lambda/\Delta T$		0.35		nm/°C
Wavelength shift with current	$\Delta\lambda/\Delta I$		0.8		nm/A
Electrical-to-optical efficiency	PE		50		%
Threshold current	I_{th}		0.8		A
Operating current	I_{op}		9		A
Operating voltage	V_{op}		3.3		V
Slope efficiency	η		1.5		W/A
Core diameter	D_{core}		105		um
NA	NA		0.22		
Cladding diameter	D_{clad}		125		um
Fiber termination	-		-		

Outline Dimensions (unit: mm)



Additional Notes

- The HBFC976P15W 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. The 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 the laser. Follow safety protocols to avoid injury when handling and cutting the fiber.
- Specifications are subject to change without notice.