

# PLD-92-HPP: 970 nm, 110 W

## High Peak Power Fiber-coupled Diode Lasers



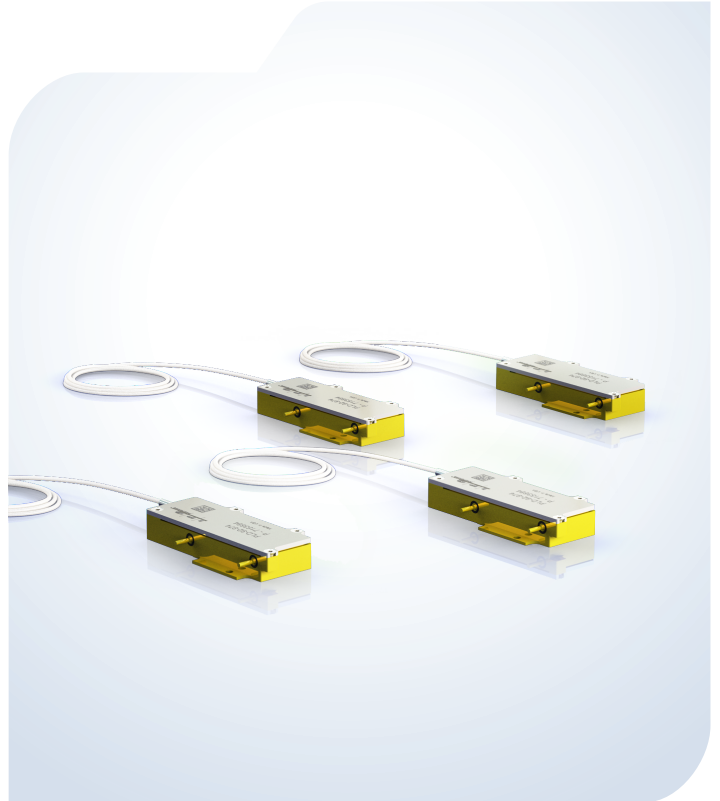
### Applications

- ▶ Direct Diode Material Processing
- ▶ Medical Applications in Aesthetics and Dentistry



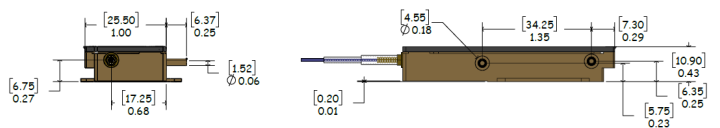
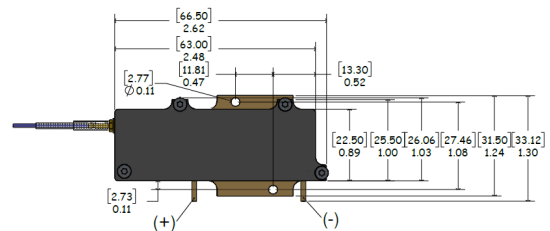
### Features

- ▶ Wavelength 970 +/- 5 nm
- ▶ Output Power 110 W at 20 Amperes
- ▶ Maximum Pulse Duration 10 ms at 10% Duty Cycle
- ▶ Ultrahigh Brightness from 110 μm fiber
- ▶ Minimal Cooling Requirements
- ▶ Compact Fiber-Coupled Package



IPG Photonics' line of high peak power fiber-coupled diode lasers are a revolutionary product providing unmatched performance from a compact, single-emitter diode footprint featuring high reliability and minimal cooling requirements. The PLD-92-970-HPP provides an ultra-bright 110 W fiber-coupled power out of a 110 μm diameter core. The HPP line of IPG diodes reliably sustain high brightness output for pulse durations up to 10 milliseconds at duty cycles as high as 10%.

At IPG, we manufacture to rigorous telecom-grade standards in the world's largest high power diode fab. Each die is individually qualified, which sets IPG apart from alternative industrial pump products using short-lived diode bars and bar-stack technologies.



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## High Peak Power Fiber-coupled Diode Lasers

Optical and Electrical Characteristics*	PLD-92-HPP
Center Wavelength, nm	970
Center Wavelength Tolerance, nm	5
Maximum Peak Output Power, W	110
Maximum Pulse Duration, ms	10
Maximum Duty Cycle in Pulsed Mode, %	10
Threshold Current ( $I_{TH}$ ), A	1
Operating Current ( $I_{OP}$ ), A	20
Forward Voltage, V	<10
Recommended Case Temperature, °C	25

\* Output performance data measured at 20 A, 25°C, 10 ms, 10% duty cycle.

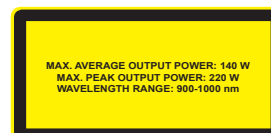
Fiber Characteristics	
Fiber Core Diameter, $\mu\text{m}$	110
Fiber Cladding Diameter, $\mu\text{m}$	125
Fiber Buffer Diameter, $\mu\text{m}$	250
Beam Numerical Aperture (90% power)	<0.2
Fiber Length, m	1.9
Minimum Fiber Bend Radius, mm	30

Maximum Ratings	
Operating Current ( $I_{OP}$ ), A	20
Reverse Voltage, V	5
Case Temperature, °C	5 - 70
Storage Temperature, °C	-20 to 60
Lead Soldering Temperature (10 s max) °C	300
Relative Humidity, %	85

+1 (508) 373-1100; sales.us@ipgphotonics.com  
 +49 2736 44200; sales.europe@ipgphotonics.com (European Inquiries)

[www.ipgphotonics.com](http://www.ipgphotonics.com)

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