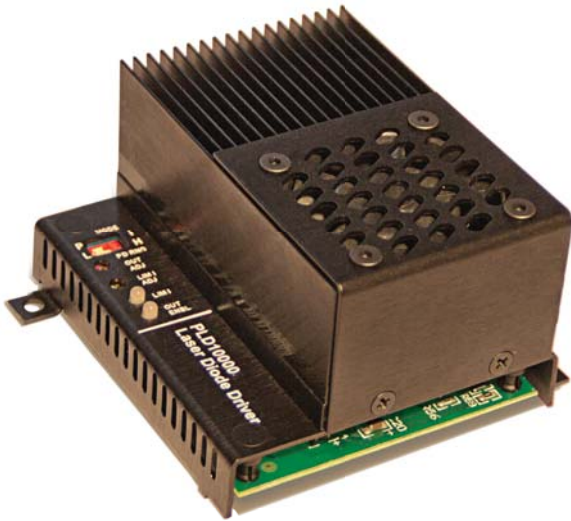


PLD10000/PLD12500

Laser Diode Drivers



FEATURES

- Output current: 10 A and 12.5 A in Constant Current and Constant Power operating modes
- PLD10000 can be operated from a single 5 V power supply
- Separate laser diode supply input allows for compliance voltages up to 27.5 VDC
- Manual adjustments
 - » Current Setpoint and Current Limit
 - » Photodiode sensitivity
- Remote adjustments for OEM applications
 - » Current setpoint and modulation
 - » Output Enable/Disable
 - » Monitors for output current, photodiode current, output current limit, and limit status
- Safety features protect the laser diode
 - » CDRH Output On delay and slow start
 - » Mechanical shorting relay on output
 - » Latching current limit
- PLD10EV evaluation board speeds development and reduces prototyping costs
- Printed circuit board-mounted module
- Chassis-mount PLD models also available

RELIABILITY YOU CAN TRUST

The PLD Series Laser Diode Drivers deliver the reliability and performance you expect from a Wavelength Electronics laser driver in a compact and easy-to-integrate package. These high current PLD drivers couple the high-reliability architecture of Wavelength Electronics' lower-current PLD-Series with a robust high-current output stage.

Tens of thousands of PLD drivers are deployed in laser systems around the world, proving beyond doubt the reliability and stability of the design. PLD Series drivers are found in fiber laser pumping, materials processing, pyrotechnic ignition, industrial welding and cutting applications, and laser diode LIV testers.

DESIGNED FOR EASY INTEGRATION

The PLD10000 is powered by a 5 V supply, and the laser can be driven from the same supply. High-compliance lasers can be driven by using a separate supply up to 30 V. The PLD12500 requires two separate power supplies.

The available PLD10EV evaluation circuit board reduces your development time and cost and lets you focus on designing the features that will set your system apart in the field.

PRACTICAL FEATURES, ROBUST DESIGN

Thoughtfully designed features provide valuable benefits and protect the laser against operational anomalies:

- Remote enable can be tied to a safety interlock and a temperature controller, such as Wavelength's PTC Series.
- Built-in Constant Current and Constant Power operating modes minimize your electronics overhead.
- On-board controls mean quick and easy driver setup.
- Analog setpoint input gives you remote external control of the laser current and modulation.
- Latching current limit safely switches off output if current limit is reached.

VALUABLE LASER SAFETY FEATURES

Built-in safety features make your product more robust to real-world operating conditions: latching current limit, slow start and current ramp, and a mechanical shorting relay that protects the laser while the driver is powered off. Long-term reliability means better up-time, fewer service calls, and more customers who are satisfied with your products.

COUNT ON WAVELENGTH ELECTRONICS

Our Sales Engineers have the experience to help you choose the right laser diode driver for your application. Call today or visit our website to find out how Wavelength Electronics can help you succeed.

406-587-4910

www.teamWavelength.com

 **WAVELENGTH**
ELECTRONICS

PLD10000/PLD12500

Laser Driver Drivers

PLD DRIVER SPECIFICATIONS

DRIVER OUTPUT CURRENT	PLD10000	PLD12500	UNIT	NOTE
Max Output Current	10	12.5	A	
Short Term Stability, 1 hr	< 200	< 300	ppm	Constant Current mode
Short Term Stability, 1 hr	< 0.05	< 0.05	%	Constant Power mode
Compliance Voltage, Single Supply	2.5	—	V	+5 V and LD Anode tied at = 5 V
Compliance Voltage, Dual Supply	27.5		V	Power supply connected to LD Anode = 30 V
Temperature Coefficient	< 200		ppm / °C	
Photodiode Feedback Range, Low	15 – 500		µA	Type A/B lasers only
Photodiode Feedback Range, High	50 – 5000		µA	
EXTERNAL MODULATION				
Modulation Bandwidth, 3 dB	90	70	kHz	Constant Current mode
Depth of Modulation at 60 kHz	90		%	
Rise / Fall Time	7 / 8		µs	to full scale
POWER SUPPLY REQUIREMENTS				
Supply Voltage (+5 V)	5.0 – 5.5		VDC	+5 V and LD Anode tied
Supply Voltage (LD Anode)	3.0 – 30.0		VDC	Separate +5 V and LD Anode
Supply Voltage (Aux V+, Type-C Lasers)	8.0 – 12.5		VDC	Requires separate +5 V and LD Anode
Max Internal Power Dissipation	110	110	W	Refer to Safe Operating Area chart in product datasheet.
Quiescent Current	250	250	mA	
ABSOLUTE MAXIMUM RATINGS				
	VALUE	UNIT	NOTE	
Supply Voltage (+5 V)	5.5	VDC	PLD10000 and laser can be driven from a single 5 V power supply; PLD12500 requires separate power supplies for driver and laser	
Supply Voltage, High Compliance (LD Anode)	30.0	VDC	High compliance lasers can be driven from a separate supply	
Supply Voltage, Type-C Lasers (Aux V+)	12.5	VDC	Type-C lasers require a separate V_s power supply	
Case Operating Temperature	0 to 50	°C	PLD12500 maximum operating temperature 35°C	
Case Storage Temperature	-55 to 125	°C		
Weight	8.4	oz	235 g	
Size	3.35 x 3.45 x 2.11	inches	85.1 x 87.6 x 53.6 mm	

Additional specifications are available in the product datasheet; download at www.teamWavelength.com/products/product.asp?part=150

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
PLD10000	10 A Laser Diode Driver
PLD12500	12.5 A Laser Diode Driver
PLD10EV	Evaluation PCB for PLD10000 and PLD12500
USBKIT	USB Interface kit, with software

Free, effective, and responsive technical support is available to simplify integration of Wavelength products into your OEM design. Standard product can be modified to meet your unique application requirements.

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