

WL-LDC10D

High Speed Laser Diode / SOA / BOA Controller

Features

- Analog bandwidth **DC to 15MHz**
- Up to **1A** output drive current
- Adjustable output current limit **200mA to 1A**
- Laser diode reverse current protection
- Current monitor output
- TTL modulation (2 arbitrary currents)
- Integrated **TEC Controller** (1.5A max.)
- Adjustable TEC regulator parameters
- Adjustable TEC current limit
- USB interface (virtual COM port)
- Affordable pricing

Applications

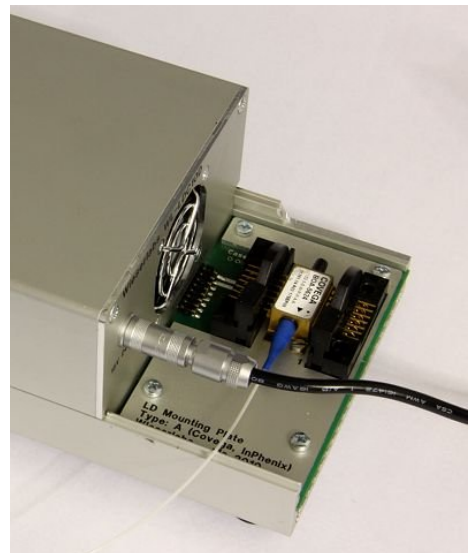
- FDML laser: sweep amplitude shaping
- SOA/BOA/LED modulation and switching

General Description

The WL-LDC10D is a high speed laser diode driver especially designed to drive SOAs and BOAs in the near infrared range. It features an analog input which sets the laser current anywhere between 0 and 1A at frequencies from DC to 15MHz. This combination of high output drive and high slew rate (50A/ μ s) makes the WL-LDC10D well suited for switching as well as analog modulation applications. A digital TTL input allows digital switching between two arbitrary current settings.

The WL-LDC10D features an adjustable current limit, reverse current protection and an integrated thermal overload protection. It provides an internal digital control loop as TEC controller with adjustable temperature and current limit. All parameters can be adjusted at the frontpanel and via the built-in USB interface.

Typical Application



The laser diode is mounted directly at the back of the WL-LDC10D. Different slot-in mounts for different pinouts are available.

The information provided in this data sheet is believed to be accurate and reliable. However, Wieserlabs UG assumes no responsibility for its use, for inaccuracies and omissions, nor for any infringements of patents or other rights of third parties that may result from its use. Prices and specifications are subject to change without notice. Trademarks and registered trademarks are the property of their respective owners.

© **Wieserlabs UG**
(haftungsbeschränkt)
info@wieserlabs.com
Oettingenstr. 67, D - 80538 München

Electrical Specifications

Parameter	Conditions	Min	Typ	Max	Units
Supply Voltage ¹ (V _S)			15	16	V
Output Current (I _{out})	V _S =15V, Diode forward voltage <2V Maximum output current decreases with increasing diode forward voltage.	1	1.1		A
Input Voltage (V _{in})	Analog current control voltage	-6.5		6.5	V
Input Impedance		48	50	52	Ω
Analog Bandwidth ²	V _S =15V, I _{out} modulation 1A _{pp}		15		MHz
Output Rise Time ²	V _S =15V, I _{out} =0 to 1A		20		ns
Output Fall Time ²	V _S =15V, I _{out} =1A to 0A		22		ns
Minimum Current Limit	Adjustable minimum output current		200		mA

1. The device is operational at supply voltages below ±15V but with degraded performance. The rise/fall times and bandwidth will be slightly smaller and the maximum output current is reduced.

2. Rise/fall times and analog bandwidth depend on the characteristics (capacity, inductivity) of the attached laser. Unless stated differently, the values specified in the above table were measured with a 1310nm SOA from Covega (Type 1132).

Mechanical Specifications

Size of metal case (without connectors)	105 x 65 x 160	mm ³
Weight, including power supply (approx.)	1 200	g