

OptoSci's LDRS Small Form Factor OEM device driver is a stable, low noise current driver and thermo-electric controller (TEC) supplied in a credit card size, three board stack. It uses the same LDR core driver hardware and offers similar high specifications as our Eurocard evaluation modules (LDR250E and LDR1000E). LDRS is designed so that it can normally be readily integrated with your active devices (SLED, SOA, 980nm Pump Lasers, DFB Laser Diodes, etc.) and a custom enclosure to enable you to provide value-added products to your customers rather than just supplying active devices.

### Features

- **Wide Current Range:** Drive currents up to 250mA or 1A and TEC to 2.5A as standard. However if your device requires higher drive currents, let us know and we can examine this further with you.
- **Small Form Factor.** With individual board sizes of 75mm x 55mm and a 3 board stack height of 29mm, the LDRS eases integration into smaller custom enclosures.
- **Microcontroller operation.** Allows remote setting of device drive parameters via USB and eliminates the problems associated with manual setting of analogue potentiometers.
- **Standalone Operation:** The device operating parameters (e.g. drive current / output power and set temperature) are saved to EPROM on the driver board to allow set & forget operation. Under these conditions when LDRS is powered up (via +5V DC supply) the active device will turn on and operate with these predefined parameters with no need for connection to a PC. This enables the operator to run software control in production and burn device setup parameters into the driver EPROM before it ships (although the option is always available to change the operating parameters via the V-DRIVE software interface in the future if desired).
- **Custom modules available.** Contact us to discuss custom device drivers with different specifications or other features..

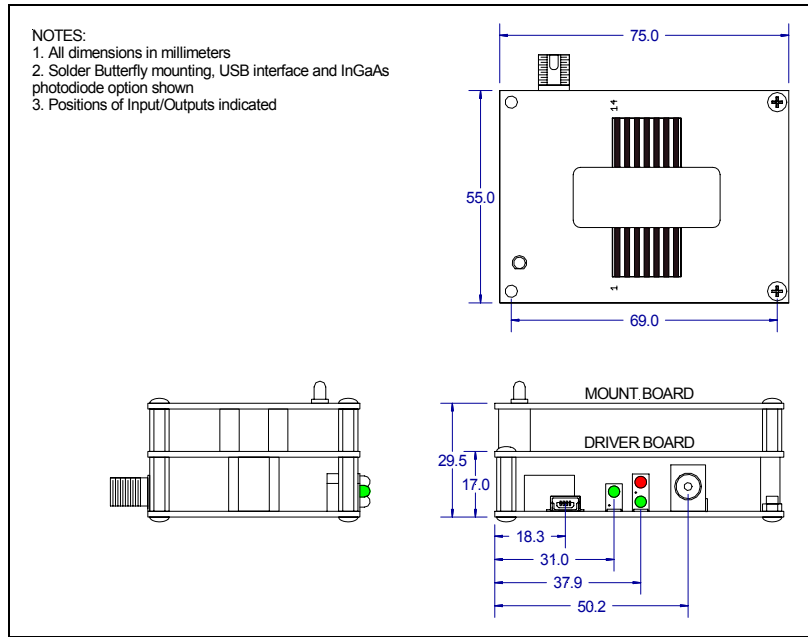
## LDRS General Specifications – Custom Options Available

ITEM	SPECIFICATION	COMMENT
<b>Current Source Subsystem</b>		
Drive Current	LDR1000S: 10 – 1000 mA LDR250S: 0 – 250 mA	<i>User adjustable in 0.1mA increments</i>
Current stability (CC mode)	≤ 0.05%	<i>8 hours @ 20°C, after warm up</i>
Forward Voltage	≤ 4 V	<i>16 bit resolution</i>
<b>TEC Subsystem</b> (Temperature specifications assume a standard 10k NTC thermistor)		
TEC Current	≤ 2.5 A	
Temp. set-point range	10 – 40°C	<i>User adjustable in 0.1°C increments</i>
Temp. control stability	±0.02°C	<i>8 hours @ 20°C, after warm up</i>
<b>External Power Monitor (optional)</b>		
Input Optical Power	≤ 2.0 mW	
<b>PC Communications</b>		
Protocol	USB	<i>USB connector</i>
<b>General Data</b>		
Supply Voltage	4.5 – 5.5 V	<i>DC</i>
Supply Current	≤ 0.75 A	<i>Depends on TEC draw</i>
Update Rate	3 Hz	
Operating Temperature	0 – 35°C	
Storage Temperature	-10 – 60°C	
Dimensions (LxWxH)	75 x 55 x 29 mm	<i>3 board stack</i>
Weight	0.1 kg	
V-Drive Software Compatibility	Windows 98SE/NT/2000/XP	
Device Mounting Style	Top Boards are designed to accept solder mounts	
Device Package Style	Top Boards are designed to accept 14pin Butterfly.	
Device Pin Compatibility	Laser Diode	Grounded Cathode, Floating as standard. Grounded Anode for 250mA GA option
	Photodiode	Grounded Anode, Floating as standard.

### OptoSci OEM Design & Production Capability

OptoSci has extensive experience in the design and production of custom and OEM photonics instruments and sub-systems for our worldwide industrial and research clients, based on our laser diode drivers, TEC controllers, photoreceivers, power meters, lock-in amplifiers, digital & analogue signal processing systems, system control & display modules, etc. (see the *Instrumentation* section of [www.optosci.com](http://www.optosci.com) for further information).

If you have a requirement for a custom photonics instrument, or an OEM sub-system to integrate into your own system or product, and feel that OptoSci's electronic and optoelectronic expertise would be of interest to you then please let us know and we would be happy to examine and discuss your requirements further with you.



**Ordering Information:**

**LDR** □□□□□ **S** - □□

**Driver:**

- 250GK            250mA grounded cathode OEM LDR Controller
- 250GA            250mA grounded anode OEM LDR controller
- 1000            1000mA OEM LDR Controller

**Photodiode:**

- IF            External InGaAs photodiode in FC receptacle
- NO            None
- CO            Custom option

**Example: LDR250GAS-IF** - 250mA Grounded Anode, Small form factor LDR controller, with solder mount for 14-pin Butterfly package, USB interface and InGaAs photodiode in FC receptacle

**Included Items**

The LDRS OEM board is supplied with the following items as standard.

- V-DRIVE OEM Software for setting device operating parameters
- USB interface
- Solder Mount for 14pin butterfly packaged fibre coupled laser, SOA or similar device
- Operators manual

For other device mounts and modulation options please contact OptoSci.

Since OPTOSCI are committed to continuously improving the design and performance characteristics of our products, these specifications are subject to change without notice.  
 Date: November 2010