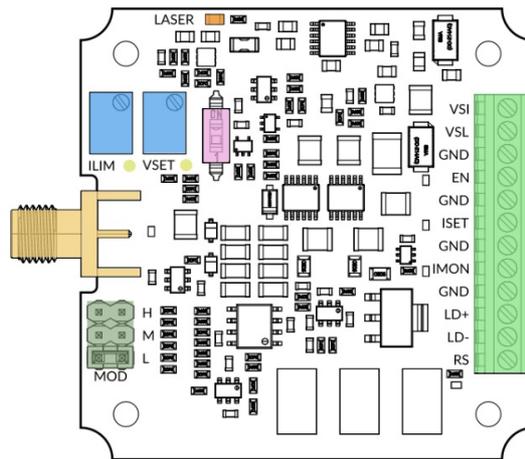


DRV200S - User Guide

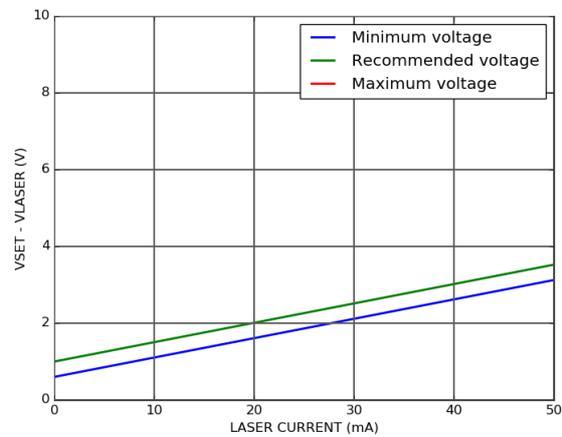


Terminal block connections

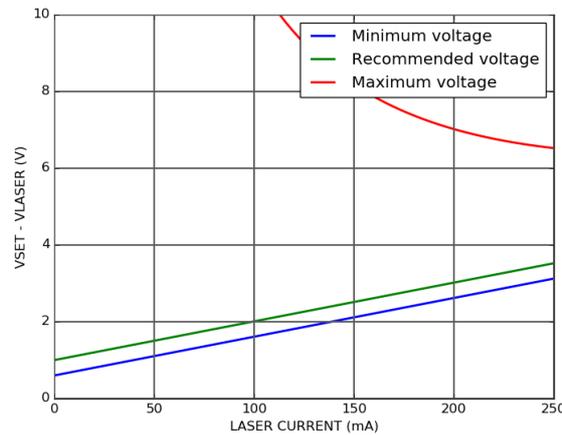
- **VSI**: Internal supply. Connect this pin to a 5V supply. Maximum current draw is 80 mA.
- **VSL**: Laser supply. V_{SL} can be set between 3 V and 19 V depending on the required compliance voltage. Maximum current draw is equal to the laser current plus 20 mA. The laser supply is internally regulated with a linear regulator where the output voltage V_{SET} is defined by the VSET trimmer (see [Adjusting the compliance voltage section](#)). The voltage drop in the linear regulator $V_{SL} - V_{SET}$ must be kept above 0.5 V to ensure proper voltage regulation and below 2 V to limit power consumption.
- **EN**: Laser Enable pin. Apply a voltage between 2.2 V and 4.5 V to enable the laser current.
- **ISET**: Laser current setpoint input. Apply a voltage at this pin to set the laser current. The input has 2 k Ω impedance and is filtered by a second-order low-pass filter with 10 Hz cutoff frequency. Gain is 20 mA/V for the DRV200S-A-40, 100 mA/V for the DRV200S-A-200 and 200 mA/V for the DRV200S-A-400.
- **IMON**: Laser current monitoring pin. The voltage at this pin is proportional to the laser current. Gain is 50 mV/mA for the DRV200S-A-40, 10 mV/mA for the DRV200S-A-200 and 5 mV/mA for the DRV200S-A-400. Output impedance is 1 k Ω .
- **LD+**: Laser anode pin. Connect this pin to the laser anode.
- **LD-**: Laser cathode pin. Connect this pin to the laser cathode.
- **RS**: Do not connect.

Adjusting the compliance voltage

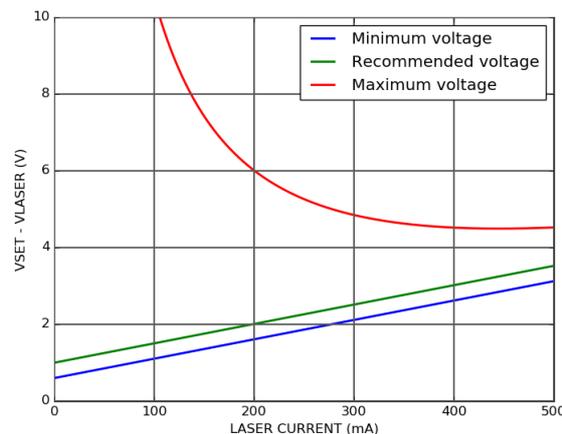
The voltage V_{SET} at the test point VSET must be set according to the laser operating voltage and current:



DRV200S-A-40 safe operating area



DRV200S-A-200 safe operating area

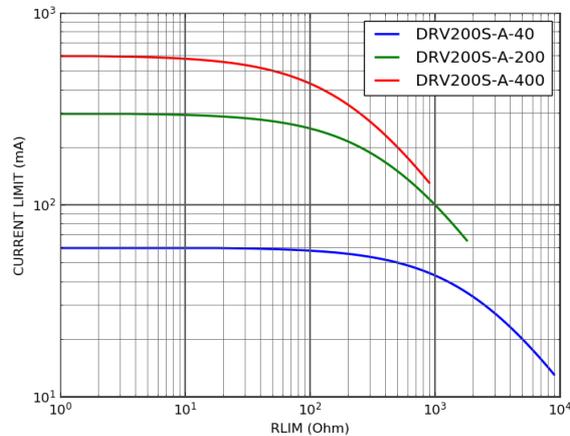


DRV200S-A-400 safe operating area

V_{SET} can be adjusted between 2.4 V and 18 V with the VSET trimmer. When the board is powered off, adjust the voltage V_{SET} by using the formula $V_{SET} = R_{SET} \times I_{SET}$, where R_{SET} is the resistance between GND and the VSET testpoint and $I_{SET} = 100 \mu A$ for the DRV200S-A-40 and the DRV200S-A-200 and $200 \mu A$ for the DRV200S-A-400.

Current limit

Current limit can be adjusted with the ILIM trimmer that sets the resistance RLIM between GND and the ILIM test point.



Current modulation

The DRV200S can be modulated from DC to 6 MHz using the SMA connector. The MOD jumper allows to select between 3 modulation gains:

DRV200-A-40

- Low: 200 μ A/V
- Medium: 2 mA/V
- High: 20 mA/V

DRV200-A-200

- Low : 1 mA/V
- Medium: 10 mA/V
- High: 100 mA/V

DRV200-A-400

- Low : 2 mA/V
- Medium: 20 mA/V
- High: 200 mA/V

Modulation range is ± 1 V and input impedance is 50 Ω .