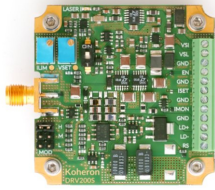


DRV200S - Low noise laser driver with external setpoint



Koheron DRV200S is an ultra-low noise current driver on which the current setpoint is controlled by an externally applied voltage. The DRV200S has variable current limit and compliance voltage. It also features a DC to 5 MHz modulation input with adjustable modulation gain.

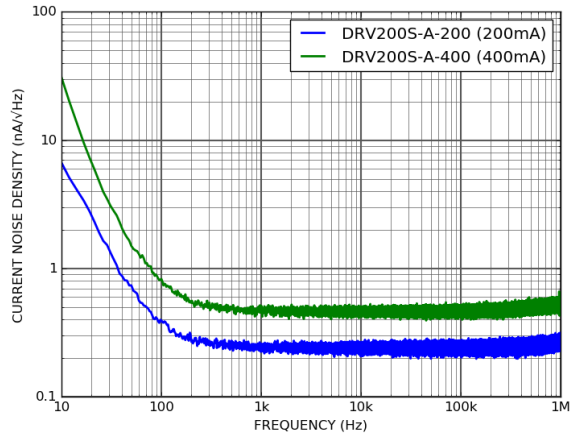
Specifications

| | DRV200S-A-40 | DRV200S-A-200 | DRV200S-A-400 |
|-------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Laser current | 0 - 40 mA | 0 - 200 mA | 0 - 400 mA |
| Internal supply voltage (VSI) | 4.8 V - 6 V | 4.8 V - 6 V | 4.8 V - 6 V |
| Laser supply voltage (VSL) | 3 V - 19 V | 3 V - 19 V | 3 V - 19 V |
| Maximum compliance voltage | 15.5 V | 15.5 V | 15.5 V |
| 3 db modulation bandwidth | 8 MHz | 6 MHz | 6 MHz |
| Current monitor gain | 50 mV/mA | 10 mV/mA | 5 mV/mA |
| Temperature coefficient | 30 ppm/°C | 30 ppm/°C | 30 ppm/°C |
| RMS noise (10 Hz - 1 MHz) | 65 nA _{rms} | 265 nA _{rms} | 530 nA _{rms} |
| Current limit | 13 - 60 mA | 65 - 300 mA | 130 - 600 mA |
| Slow start (90 % setpoint) | 1.0 s | 1.0 s | 1.0 s |
| Modulation gains | 200 μ A/V, 2 mA/V, 20 mA/V | 1 mA/V, 10 mA/V, 100 mA/V | 2 mA/V, 20 mA/V, 200 mA/V |
| Outside Dimensions | 58 mm x 50 mm x 14 mm | 58 mm x 50 mm x 14 mm | 58 mm x 50 mm x 14 mm |
| Weight | 19 g | 19 g | 19 g |
| Operating temperature | 0 - 50 °C | 0 - 50 °C | 0 - 50 °C |
| Compatible lasers | Floating diodes / anode-grounded | Floating diodes / anode-grounded | Floating diodes / anode-grounded |

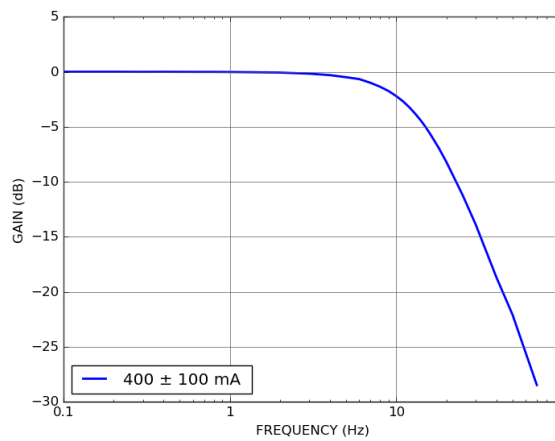
Characterization

Current noise

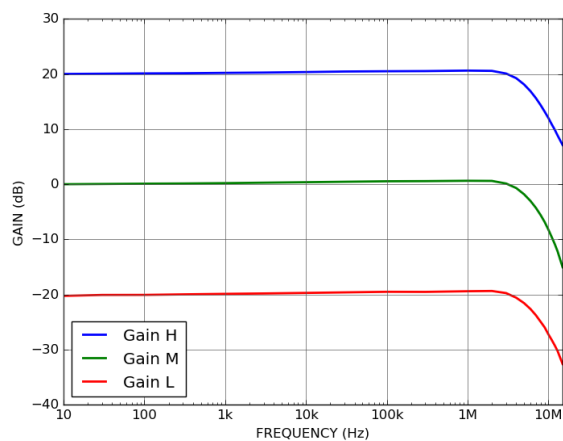
The figure below shows the current noise of the DRV200S laser driver. The setpoint is produced by a [VREF100 voltage source](#).



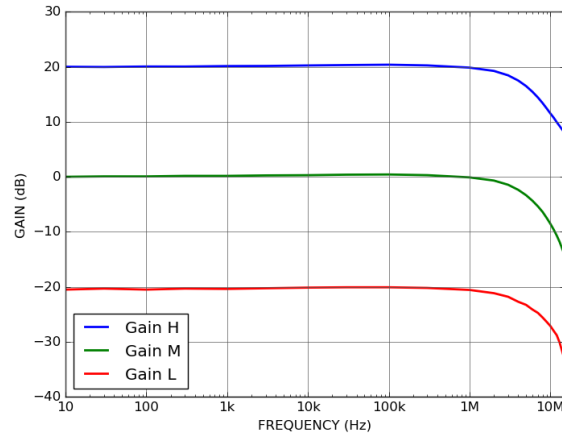
Setpoint frequency response



DC current modulation input



Transfer functions of the modulation input. 200 mA laser current version (A-200)



Transfer functions of the modulation input. 400 mA laser current version (A-400)

Modulation performance are characterized using a DFB laser operated at 80 mA. The gain high modulation (H) is measured at 200 mV_{pp} and the gains medium (M) and low (L) are measured at 2 V_{pp}. Gains are normalized to the medium modulation gain at DC.