Precision Pulse Control
The PCO-7114-22-2 is a compact and economical pulsed-current OEM laser diode driver module with current range from 6 A to 22 A with a fixed pulse width of ≤ 2 ns typical. It is designed to provide extremely fast current pulses for driving laser diodes in range finder, LIDAR (Light Imaging, Detection and Ranging), ADAS (Advanced Driver Assistance Systems), atmospheric communications and other applications requiring high-current nanosecond pulses.

Laser Diode Connection
Mounting pads are provided to mount the laser diode directly to the driver. The four-hole mounting pattern accepts TO-18, TO-5, TO-52, 5.6 mm, and 9 mm packages.

To facilitate various packages and mounting preferences, two solder pads at the end of the board accept various laser diode packages mounted on-axis to the driver. Alternately, low-inductance stripline cable can be used for connection to a remotely-located diode.

System Operation
Output current is controlled with the voltage at the high-voltage input. The output frequency is the same as the pulses fed to the trigger input.

A current monitor output is provided to observe the laser diode current in real time with an oscilloscope.

Ordering Information
<table>
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<tr>
<th>Model</th>
<th>Current</th>
<th>Pulse Width</th>
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<tr>
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<td>22 A</td>
<td>2 ns</td>
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<td>Included Control Cable</td>
<td>PCA-9190</td>
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<td>Optional Current Monitor Cable</td>
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<tr>
<td>Optional Micro Stripline Output Cable</td>
<td>1820-0030</td>
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PCO-7114-22-2 (22 A, 1.58 ns, shorted load, inverted current monitor)
### PCO-7114-22-2 Laser Diode Driver Module Datasheet

**Output current range**
- 6 A to 22 A

**Pulse width**
- 2 ns ≤ 1 ns

**Rise time**
- 2 ns ± 1 ns

**Frequency (see SOA graphs below)**
- Single shot to 1.1 MHz

**Throughput delay**
- ≤ 2 ns (typical)

**Housekeeping power required**
- 24 V ± 250 mV, 40 mA

**Maximum high voltage input**
- 180 V DC, 40 mA, 7.2 W

**Compliance voltage**
- 5 V

**Trigger**
- Trigger input: 0 to +5 V
- Trigger pulse width: 50 ns to 100 ns
- Termination impedance: 50 Ω

**Input connector**
- 24 V input: J1 Pin 2
- Gate input: J1 Pin 4
- High voltage input: J1 Pin 10
- Common returns: J1 Pins 1, 3, 5

**Current monitor**
- Current monitor scaling: 20 A/V (typical)
- Current monitor termination: 50 Ω
- Current monitor +: J2 Pin 1
- Current monitor -: J2 Pin 3

### Output connector

- Four-hole mounting pattern accepts TO-18, TO-5, TO-52, 5.6 mm, and 9 mm packages

### General

- **Size (LxWxH)**
  - 6.25 cm x 3.83 cm x 1.0 cm
  - (Height with the mating connector 2.15.)

- **Weight**
  - 15 g (approx.)

- **Operating Temperature**
  - 0 °C to 40 °C

- **Cooling**
  - Air cooled

### Notes

- **Warranty:** One year parts and labor on defects in materials and workmanship.

- All specifications are measured when driving a shorted load using the current monitor connection.

- Specifications are subject to change without notice.
Safe operating area graphs

![Frequency vs. Load Current Graph]
High Voltage Settings vs. Load Current (typical)