

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.

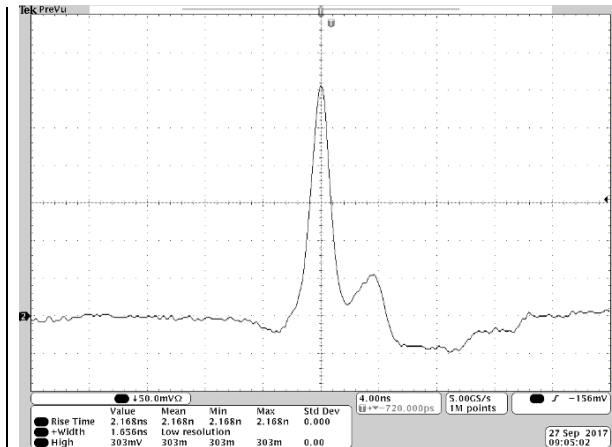
System Operation

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.

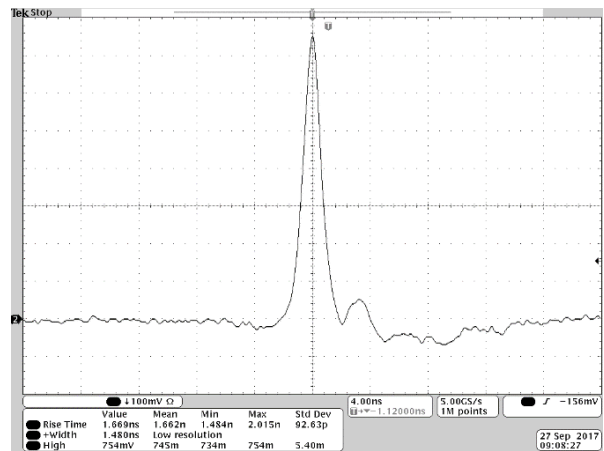
A current monitor output is provided to observe the laser diode current in real time with an oscilloscope.

Ordering Information

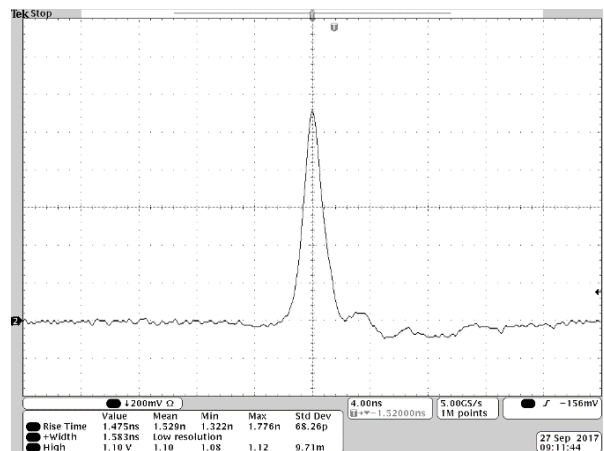
PCO-7114-22-2	22 A, 2 ns
Included Control Cable	PCA-9190
Optional Current Monitor Cable	PCA-9140
Optional Micro Stripline Output Cable	1820-0030



PCO-7114-22-2 (6 A, 1.66 ns, shorted load, inverted current monitor)



PCO-7114-22-2 (14.9 A, 1.48 ns, shorted load, inverted current monitor)



PCO-7114-22-2 (22 A, 1.58 ns, shorted load, inverted current monitor)

PCO-7114-22-2

Output current range	6 A to 22 A
Pulse width	6 A to 22 A, ≤ 2 ns (typical)
Rise time	2 ns \pm 1 ns
Frequency (see SOA graphs below)	Single shot to 1.1 MHz
Throughput delay	37 ns typical
Housekeeping power required	24 V \pm 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

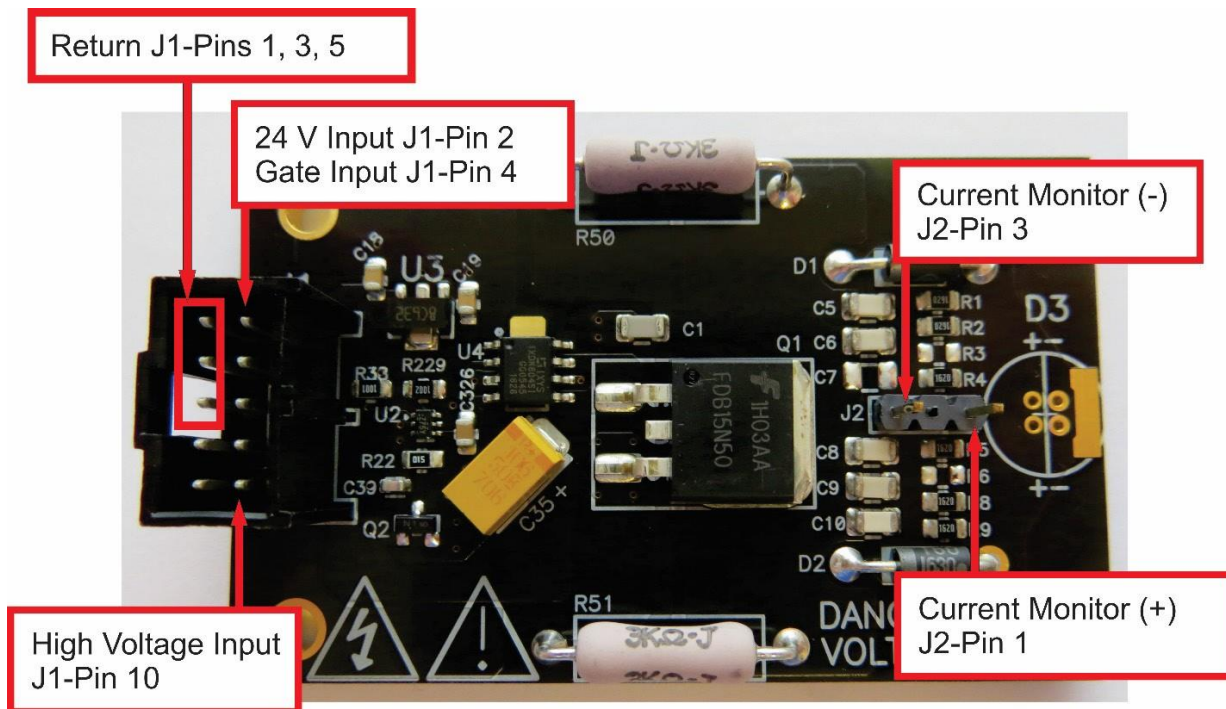
General

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 $^{\circ}$ C to 40 $^{\circ}$ C
Cooling	Air cooled

Notes

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

