

Ultrashort Pulse Generator and Laser Driver

OEM Solutions for Directly-Pulsed Laser Diodes

We offer off-the-shelf and OEM ultrashort pulse generators and laser drivers. The PL1.0 is an efficient and practical short-pulse and high driver current laser diode driver in a compact OEM package. It generates 2ns very short pulses with pulse repetition rate arbitrarily settable from 400-100kHz. It's build-in pulse generator eliminates the need for external signal generator that is required by most of the pulse laser drivers in the market. It outputs up to 1000mA peak driving current, suitable for driving nowadays butterfly-packaged or TO-can packaged laser diodes.

The PL1.0 is specially designed as the seed laser driver that will set the performance of laser systems at the most suitable parameters for laser micro machining and other applications. It's pulse width and repetition rate are designed to match to the scan-mirror commonly used in the laser micromachining machine.

We design and manufacture custom LD drivers to the specs of your choice. Pulse width, repetition rate, driver current, and control interface can all be customized to fit your needs.



Features:

- Optical pulse width from 2 -2000 ns
- Laser current up to 1000mA
- Build-in pulse generator, eliminate the need for external trigger source
- Arbitrary resettable PRF from 400Hz-100kHz
- Rise time from 350ps to 1.5ns, depends on laser electrical parasitic capacitance.
- Jitter <100ps RMS
- 5VDC power
- 3" x1.5" compact, economic OEM

Applications:

- Diode laser seed driver for solid-state and fiber lasers
- LIDAR, Range finding
- Biochemistry
- Free-space communication.

Technical Data

Parameter	Unit	Performance	Note
Max. output current	mA	1000	
Max output voltage	V	5	
Pulse Width at max output current	ns	2 --2000	user adjustable
Pulse repetition frequency (PRF)	Hz	0 -- 10 ⁸	user adjustable
PRF selection		8 bit binary control of PRF	
Control		8 point jumpers	microcontroller option per customer request
Rise/Fall time [10% to 90% typical]	ns	0.350 to 1.5s nominal	Actual rise/fall times depend on laser electrical parasitics
Jitter	ps	< 100 RMS	
Power supply	V	+4.5 ~ +5.8	
Operation temperature	°C	0 ~ 70	
Dimension	mm	80 x 40	printed circuit board

Example

Pulsing a 1064nm Broad Bandwidth FBG-stabilized high power laser diode, model number LC96A1064BBFBG-20R

