

# QDP-50™ OEM POCKELS CELL DRIVER

Double Pulse Q-Drive™ for Flash Lamp Pumped Lasers

## PRODUCT DATASHEET

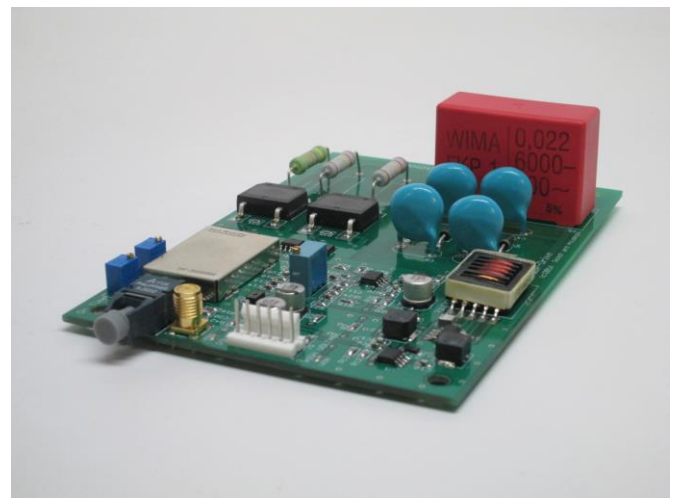
The Gooch & Housego QDP-50™ is a compact OEM Pockels cell driver for inclusion in flash lamp pumped lasers.

The driver is designed for Q-switching of lasers without the need for phase retardation plates. Once triggered, high voltage is applied to inhibit the laser output. After a preset delay, the Pockels cell is opened by a fast negative pulse to allow laser output, then it returns to high voltage to inhibit additional lasing.

The QDP-50 has been shown to increase Pockels cell life expectancy and laser output power relative to voltage-on scenarios often employed.

It can be triggered via an SMA connector or via an optional optical input for greater noise immunity.

The compact 140x92x32 mm (5.5x3.6x1.2") circuit features an integrated high voltage power supply which includes remote voltage monitoring (1 V/kV) and remote shutdown.



### Key Features

- 1.2-4.0 kV adjustable output voltage
- 0-50 Hz repetition rate
- 400  $\mu$ s nominal on time (adjustable)
- 160-200  $\mu$ s delayed pulse (adjustable)
- Fall time (delay pulse) less than 10 ns
- SMA trigger input standard
- Optical trigger input (optional)

### Benefits

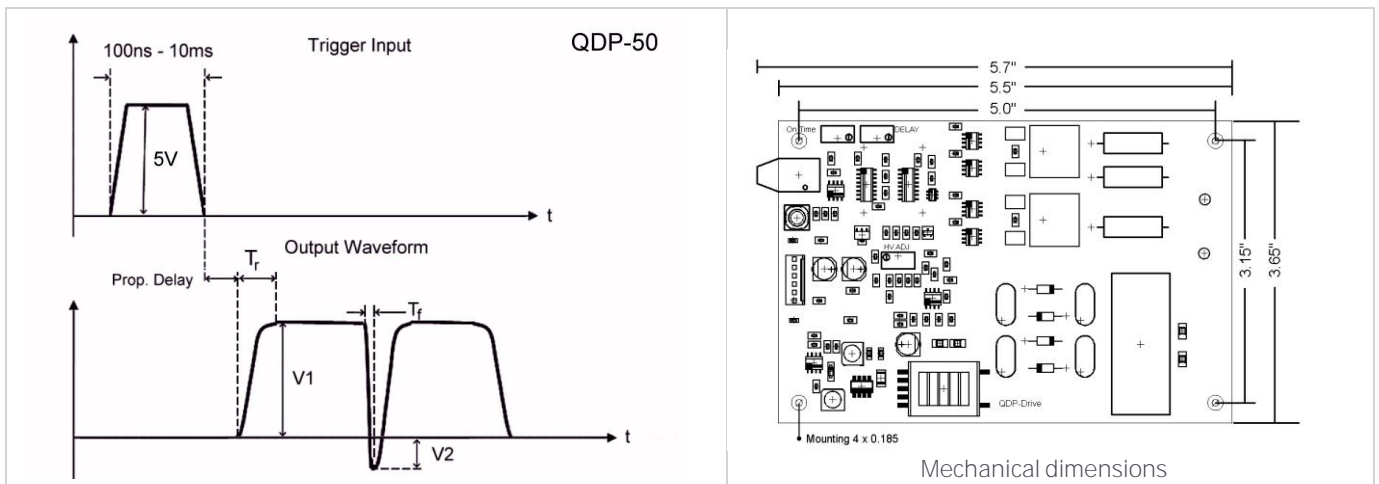
- Increased Pockels cell life
- High performance at a low cost
- Integrated high voltage power supply
- Compact footprint

### Applications

- Medical lasers
- Industrial lasers
- Etching/marking

## Specifications

Parameter	Conditions	Min	Max	Units
OUTPUT PULSE PARAMETERS				
Pulse repetition rate	Same as trigger input	1	50	Hz
Amplitude (V1+V2)	Adjustable (V2 = 10% of V1)	1.2	4.0	kV
Total HV on time	Adjustable or fixed	300	600	μs
Delayed center pulse	Adjustable (range can be modified)	160	200	μs
Fall time	3.5 kV, 6 pF		< 10	ns
Rise time	3.5 kV, 6 pF	1	5	μs
Load capacitance	With Pockels cell leads		30	pF
POWER REQUIREMENTS				
Input voltage	Exceeding 20 VDC will damage driver	15	18	VDC
Input current	4.0 kV, 50 Hz, 10pf load		250	mA
TRIGGER				
Input impedance	Nom. 50 Ω	48	52	ohms
Amplitude	Nom. 5 V	4	10	V
Pulse width	Set by user	100n	10m	sec
Propagation delay	After trailing edge of trigger	80	100	ns
ENVIRONMENTAL				
Ambient air temperature			50	°C



For further information

E: [sales@gochandhousego.com](mailto:sales@gochandhousego.com)

[gochandhousego.com](http://gochandhousego.com)

QDP-50 OEM DOUBLE PULSE Q-DRIVE

Datasheet revision no. 2.1

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.

March 2018

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