新特光电
Sintec Optronics

LVR-DRIVE OEM

Pockels Cell Driver for Laser Pulse Selection and Regenerative Amplifiers

R-DRIVE™ PRODUCT DATASHEET

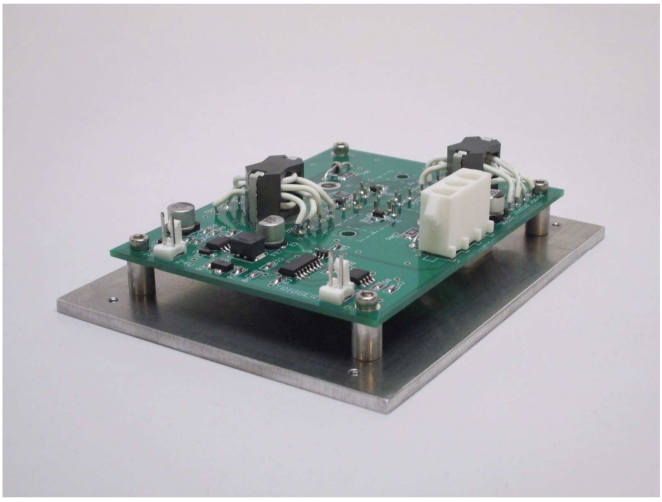
The G&H LVR-Drive is a compact OEM Pockels cell driver for inclusion in regenerative amplifiers and other pulse selection applications in solid state laser systems.

The unit drives Pockels cells at 1/4 wave producing pulses at up to 2.5 kV and up to 200 kHz, with burst mode capability to 1 MHz. The driver produces a top-hat waveform with fast rising and falling edges.

Heat load and space requirements are kept at a minimum due to the use of external power supplies. The trigger input is also electrically isolated from the power supplies for safety.

The compact 115x90x30 mm (4.5x3.5x1.2") circuit board is supplied on an aluminum plate for convection cooling, which can also be attached to a cold plate for water cooling.

It can also be supplied as a turnkey integrated 19" rack system for benchtop use.



Key Features

- 4-7 ns rise and fall time
- 0-2.5 kV output voltage
- 0-200 kHz repetition rate
- 250 ns–3 µs pulse widths
- Bipolar balanced output

Benefits

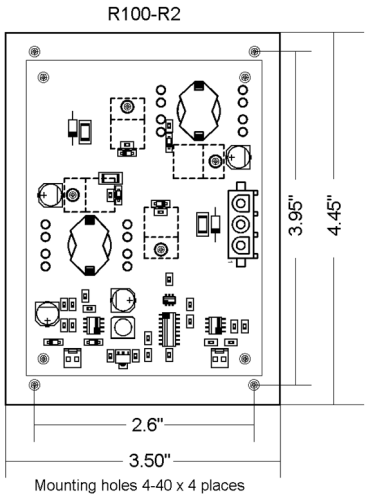
- Available as a turnkey system with enclosure
- High performance at a low cost
- Can be air or water cooled
- Compact footprint

Applications

- Metal cutting
- Welding
- Glass and sapphire cutting
- Spectroscopy

Specifications

Parameter	Conditions	Min	Max	Units
OUTPUT PULSE PARAMETERS				
Pulse repetition rate	Convection cooled	0	40	kHz
	Water cooled 1.5 L/min.	40	200	kHz
Pulse voltage	External HV: ±625 VDC in for 2.5 kV out	0	2.5	kV
Pulse width	Same as trigger input	250	3,000	ns
Rise, fall times	2.0 kV, 6 pF		6.0	ns
	2.0 kV, 40 pF max load		9.5	ns
POWER REQUIREMENTS				
Input voltage, current	24 VDC (± 2 VDC)		200	mA
High voltage, current	2.5 kV out, ±625 VDC in, 200 kHz, 6 pF		55	mA
TRIGGER				
Trigger amplitude	Nom. 5 V, 50Ω input impedance	4	10	V
Trigger to output delay	5 V trigger		40	ns
Trigger pulse width	Sets output pulse width	250	3,000	ns
Jitter, trigger to output	2 ns trigger rise time, Tektronix 11801		20 nom	ps RMS
ENVIRONMENTAL				
Mounting surface			50	ºC



Dimensions of the driver board with integral mounting plate.

Mounting plate should be attached to a thermally conductive surface for cooling or to a cold plate for water cooling.