

FASTPULSE TECHNOLOGY, INC.

LASERMETRICS® Division

220 Midland Avenue • Saddle Brook, NJ 07663

Tel: (973)478-5757 • Fax: (973)478-6115

WebSite • Fastpulse.com

SERIES 5250q-30

LASER Q-SWITCH DRIVERS

- Repetition Rates up to 30 kHz
- Complete system or Pulse Module
- <6 nanosecond RiseTime
- Adjustable Output Voltage
- EMI/RFI Suppressed
- For RTP and BBO Pockels Cells
- OEM Configurations Available

5250q series Laser Q-switch Drivers are valuable for laser Q-switching and cavity dumping. The drivers are effective in both intracavity and extracavity applications where a fast rise time pulse is needed. Typical rise times are ~5 ns. The drivers provide the latest technology in reliable, solid state, high voltage switching design.

5250q Drivers are based on high speed, HV MOSFET switching circuits developed and refined at FastPulse Technology through decades of design and improvement of Laser Pulse Gating Systems. The HV switching module is separated from the power supply permitting the pulse module to be located close to the Pockels cell. These systems are noted for convenience and reliability.

By simply adjusting the front panel HV control on the power supply, the user can operate the driver over the full range of voltages - from ~300 volts to more than the quarter wave voltage for many RTP and BBO Pockels cell Q-switches. External HV voltage control "VC" is also provided through a connector input with a user supplied 0 to 5 Volt input voltage.

The 5250q HV output holds the cell at 0V potential until the driver is triggered. The driver/cell can also be operated 1/4 wave DC voltage (QWV) to zero volts pulse by connecting the appropriate output wires and grounding lug.

At high switching rates piezoelectric ringing occurs for some EO crystals. The selection of the proper Q-switch Pockels cell is defined by the application and driver choice. RTP requires the least voltage and is suitable in visible



spectrum into the IR (532-2200 nm) and BBO for UV region into the near IR. (250-1319 nm) they provide a wide range of Pockels cell choices.

Series 1147 Pockels cells utilize RTP (Rubidium Titanyl Phosphate), noted for its ability to produce optical switching without superimposing photoelastic ringing on the transmitted beam. Series 1147 devices are suitable for 1/4 wave operation over the full spectrum range of about 500 nm to 2100 nm.

Series 1150 BBO Pockels cells utilizing Beta Barium Borate crystals. BBO is noted for its low piezoelectric response, ability to tolerate high average power and operate in the UV spectrum. Since BBO requires significantly higher voltages than RTP, small aperture sizes combined with UV-VIS spectral applications define BBO cells with modest voltage needs. Multi-crystal BBO Q-switches may be required to reduce voltage requirements adequately in 1um region.

Examples of mating Pockels cells (QWV <1.5KV)

1150-4-355 BBO QWV 1.3 KV

1150-3-532 BBO QWV 1.5 KV

1147-4-1064 RTP QWV 800V

1147-6-1064 RTP QWV 1.2KV

1147-4-1550 RTP QWV 1.2KV

1147-3-2050 RTP QWV 1.2KV

Contact our technical staff for guidance on appropriate devices. Lasermetrics q-switch drivers include series 5048SC, 5055SC, 5056SC, 5056D, 5250q and water cooled 5250QW and 5300QW with pulse rates up to 300kHz at 3KV.

SERIES 5250q-30 Q-SWITCH DRIVERS

5250q-30 Q-switch Driver System consist of a High Voltage Switching Module and a Power Supply Module. The HV Switching Module is packaged in a EMI shielded enclosure.

Contact our Engineering Sales Group for alternatives and options to match your application

NOMINAL SPECIFICATIONS

HV Output Pulse Range	300 V to 1500 V
Rise Time (10 to 90%):	~5 ns
Pulse Width:	~3 μ s (9 μ s FWHM)
Repetition Rate, single shot to:	30 kHz
Jitter, Trigger to HV Output	<1 ns
Input-Output Delay Time:	<35 ns
Trigger Input Pulse :	+5V Max TTL into 50 Ohms
Voltage Control Input	0 to 5 V (1 V in 300V Out)
Power Requirement:	100/115/230 VAC, 50/60 Hz, 70 watts
Dimensions, inches:	
HV Switching Module	4.75H* X 3.25W X 1.4 inches
*Removable Mounting base as show or/and mates to long edge., H 3.25" X 4.75W	
Power Supply (Gold Box)	2.5H X 8.0W X 10.0L inches

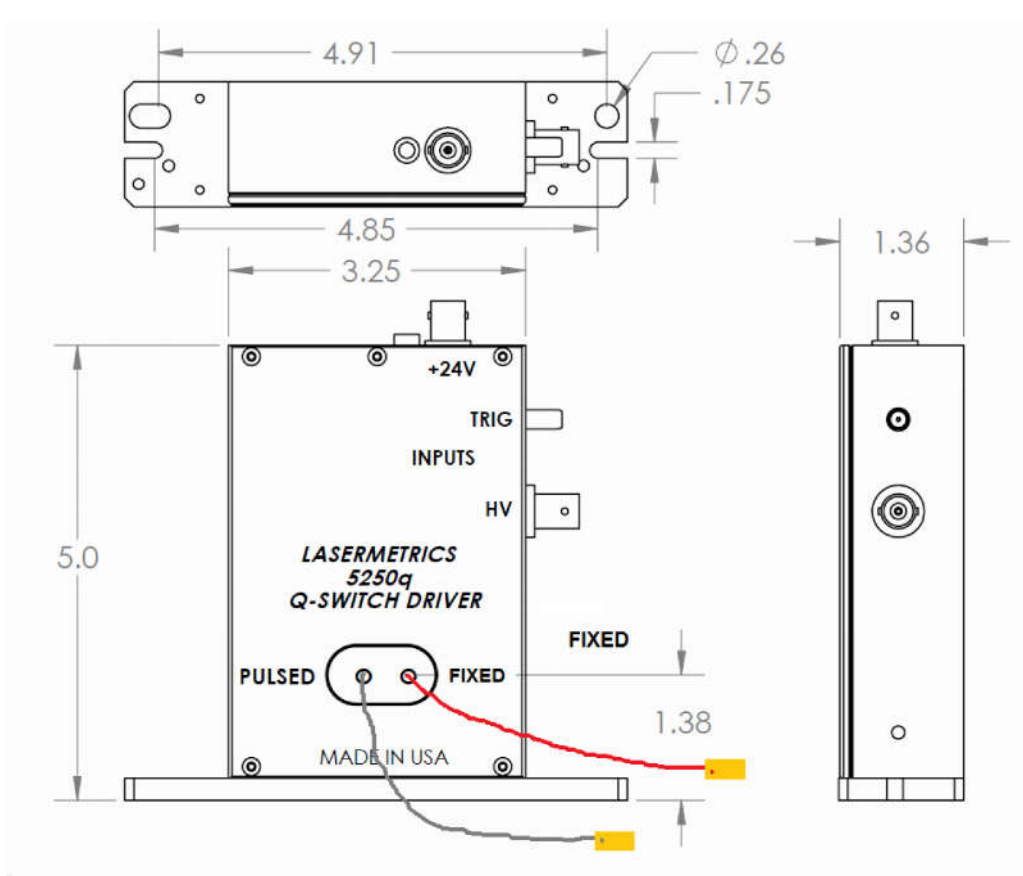


FIG1: 5250q-30 HV Switching Pulse Module

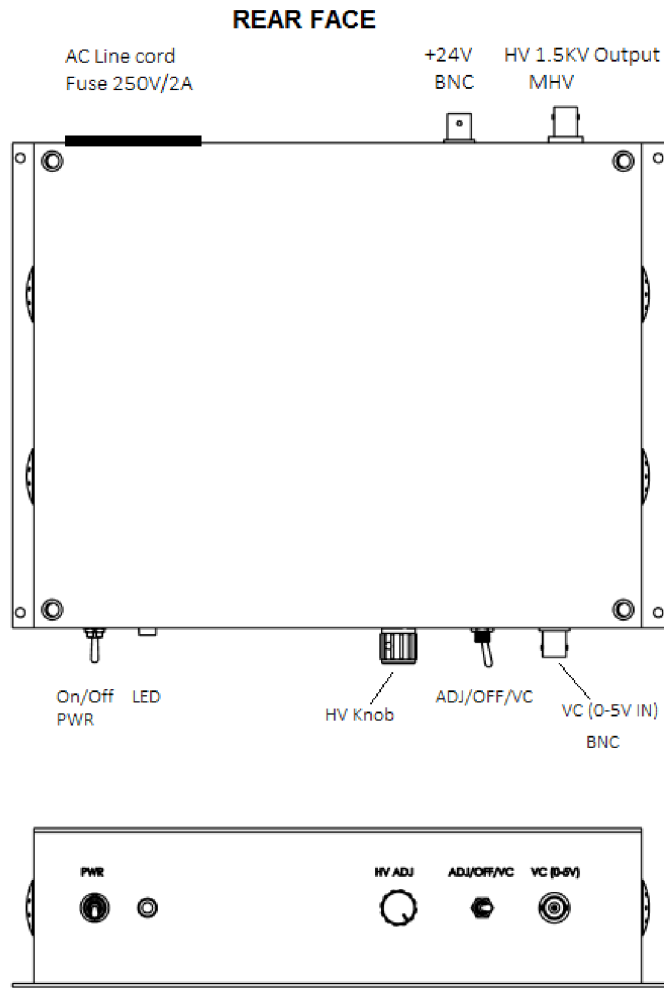


FIG 2 5250q-30 HV Power Supply Module.



SEE OUR FULL LINE OF Q-SWITCH DRIVERS