



HIGH REPETITION RATE POCKELS CELL/SHUTTER DRIVER

- ADJUSTABLE PUSH-PULL OUTPUT TO 5.0kV
- $\leq 20\text{ns}$ RISETIME AT 5.0kV
- HIGH PRF TO 45kHz WITHOUT COOLING
- RUGGED SOLID-STATE DESIGN
- OPTO-ISOLATED OR TTL TRIGGER OPTIONS
- PULSEWIDTH FROM $5\mu\text{s}$ TO DC
- ON-BOARD HIGH VOLTAGE POWER SUPPLY



DESCRIPTION:

The **Model 8261C** Pockels Cell/Shutter Driver is designed for high repetition rate, continuous pulsed applications. Solid-state MOSFET technology is used, giving excellent trigger noise immunity and a smooth output waveform. This technique eliminates common problems associated with avalanche, and transformer drivers. Amplitude is continuously variable by adjusting the internal high voltage power supply. The **Model 8261C** is capable of operating at high pulse repetition frequencies, fast risetimes and falltimes, and output pulses up to 5.0kV. A low voltage monitor pin is provided to monitor the high voltage prior to the pulse. Internal timing is provided to refresh the output at a 5kHz rate, providing pulsewidth operation from $5\mu\text{s}$ to DC.

SPECIFICATION:



PARAMETER	8261C-1			8261C-2			Units
	Min.	Typical	Max.	Min.	Typical	Max.	
INPUT							
Power	+23.5	+24.0	+24.5	+23.5	+24.0	+24.5	VDC
Current (PRF & voltage dependent)	20	-	520	20	-	520	mA
Trigger (TTL, into $>500\Omega$)	+4	-	+10				VDC
Trigger (Opto-isolated, into $>2k\Omega$)				2.5	-	10	mA
Propagation Delay (10V trigger)	-	360	-				ns
Propagation Delay (Opto-isolated)				-	300	-	ns
Trigger Pulsewidth	5.0	-	DC	5.0	-	DC	μs
Trigger Repetition Rate	-	-	45.0	-	-	45.0	kHz
Control Voltage (1kV/V scale)	0	-	5.0	0	-	5.0	VDC
OUTPUT							
Voltage	1.0	-	5.0	1.0	-	5.0	kV
DC Offset Voltage at 5.5kV	-	-	100	-	-	100	VDC
Risetime/Falltime (5pF load, 5.0kV)	-	18.0	20.0	-	18.0	20.0	ns
Risetime/Falltime (23.5pF load, 2.0kV)	-	12.0	14.0	-	12.0	14.0	ns
Pulsewidth (Same as Trigger)	5.0	-	DC	5.0	-	DC	μs
Repetition Rate (Same as Trigger, voltage & load dependent, see chart)	-	-	45.0	-	-	45.0	kHz
Pulse Jitter	-	-	2.0	-	-	2.0	ns
HV Monitor (1kV/V Scale)	0	-	5.0	0	-	5.0	VDC

*Measurements taken at 25°C ambient temperature. Specifications are subject to change without notice.

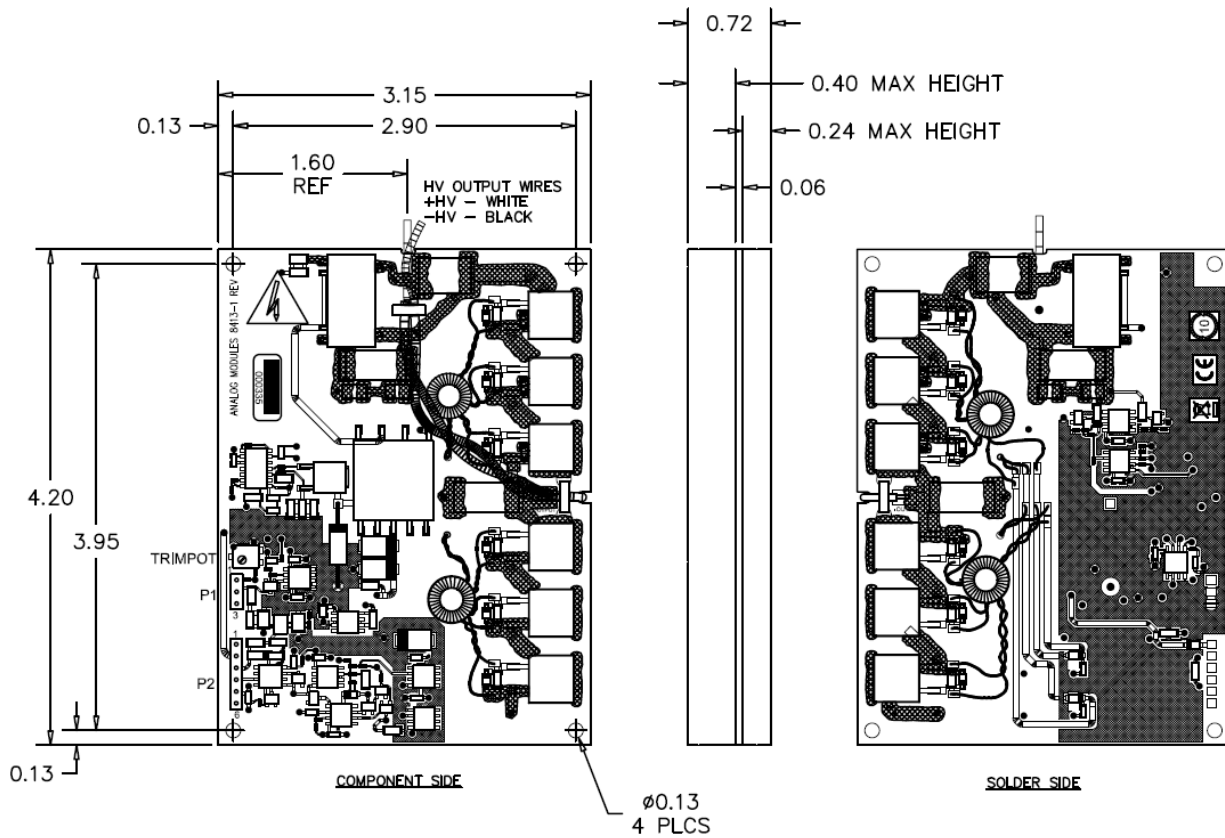
APPLICATIONS:

Driving E-O Q-Switches for Q-Switching Solid-State Lasers, High Voltage Pulser, E-O Shutter



CONNECTIONS:	
Power/Trigger/Control/Monitor:	Panduit MFSS100-6 Connector
On-Board Voltage Control:	Multi-turn potentiometer
External Voltage Control:	Panduit MFSS100-3 Connector*
Output:	18 ± 2" Flying Leads
TEMPERATURE:	0°C to +50°C Operating
SIZE:	4.20" x 3.15" x 0.72"
WEIGHT:	3.2oz.
RoHS COMPLIANCE	The 8261C is not classified as electrical or electronic equipment (EEE) under Directive 2011/65/EU per Article 3 Point 1 as the maximum output voltage of this product exceeds 1500VDC.

* If using an external control voltage, the trimpot must be set fully CCW.



CAUTION: Mounting hardware must be Non-Conductive. Nylon hardware is provided. Allow a minimum air gap of 8mm (or equivalent insulation) around the PC board to prevent arcing to laser housing or other conducting material.

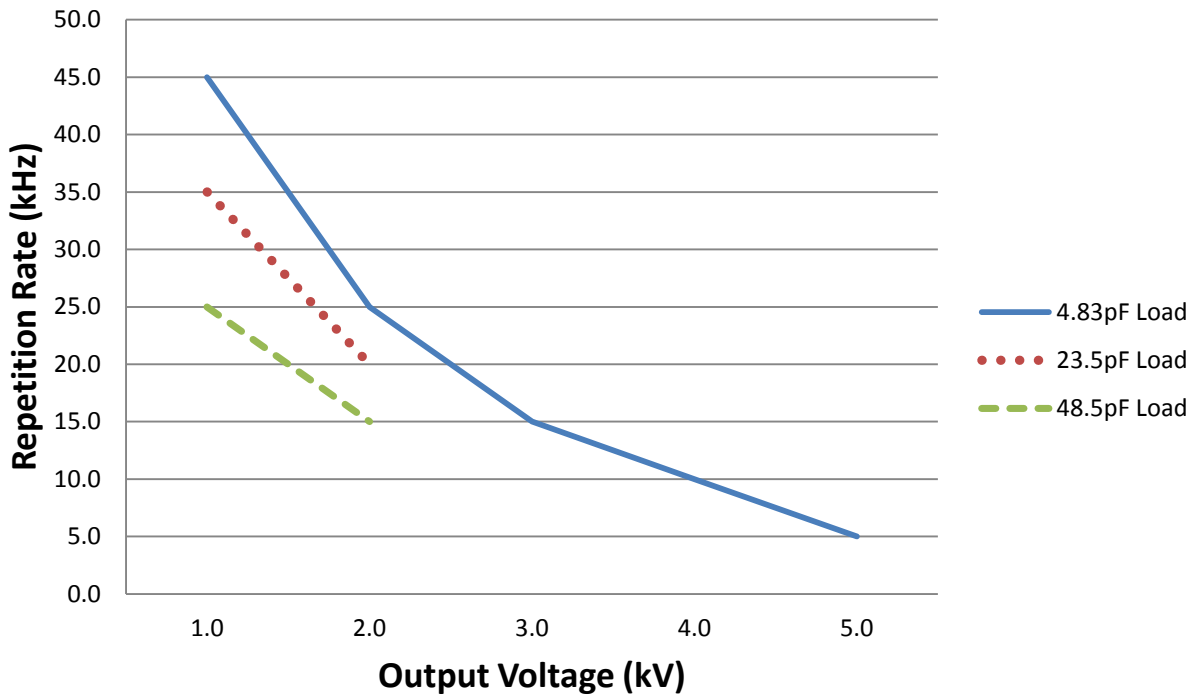
Typical Output Pulse



Pin Connections

CON	FUNCTION
P1-1	EXT CONTROL CW (OPT)
P1-2	EXT CONTROL WPER (OPT)
P1-3	EXT CONTROL CCW (OPT)
P2-1	INPUT VOLTAGE (+24VDC)
P2-2	RTN
P2-3	TRIGGER
P2-4	TRIGGER RTN
P2-5	VOUT MONITOR
P2-6	EXTERNAL CONTROL (0-5.5VDC)

Output Voltage vs. Maximum Repetition Rate for Various Loads*



*Measurements taken at 25°C ambient temperature

Input Current vs. Repetition Rate for a 4.83pF Load

