

PCB

BBO POCKELS CELLS

POCKELS CELLS

POCKELS CELLS DRIVERS

HV POWER SUPPLIES

Q-SWITCHING KITS

ULTRAFAST PULSE PICKING SYSTEMS

LASER DIODE DRIVERS

LASER SYNCHRONIZATION MODULES

CRYSTAL OVENS



PCB4D



PCB4S

BBO based Pockels cells can be useful at wavelengths from the UV to more than 2 μm. Low piezoelectric ringing makes these Pockels cells attractive for the control of high-power and high pulse repetition rate lasers. Fast switching electronic drivers properly matched to the cell are available for Q-switching, cavity dumping and other applications.

Pockels cells of PCB series are transverse field devices. Low electro-optical coefficient of BBO results in high operating voltages. The quarter-wave voltage is proportional to the ratio of electrode spacing and crystal length. As a result, smaller aperture devices have lower quarter-wave, however even for 2.5 mm aperture devices the quarter-wave voltage is as high as 4 kV @ 1064 nm.

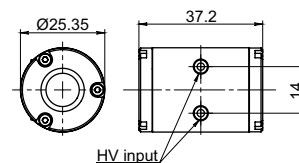
Double crystal design is employed to reduce required voltages and to allow operation in half-wave mode with fast switching times.

FEATURES

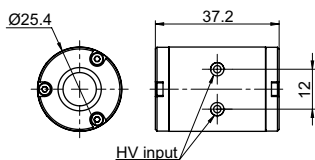
- Minimal piezoelectric ringing
- Very low absorption and suitability for high power laser applications
- Reliable design for operation up to 2 MHz HV pulse repetition rate
- Broad transmission rate from 200 to 2000 nm

APPLICATIONS

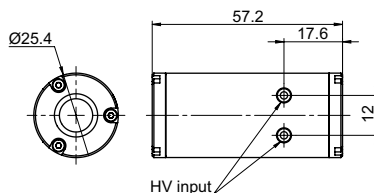
- High repetition rate Q-switching
- Pulse picking at up to 2 MHz rate
- Laser cavity dumping
- Pulses coupling into and from regenerative amplifier



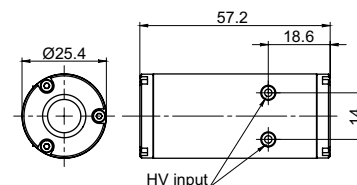
PCB6.3S outline drawing



PCB3S, PCB4S outline drawing



PCB3D, PCB4D outline drawing



PCB6.3D outline drawing

SPECIFICATIONS

MODEL	PCB3S	PCB3D	PCB4S	PCB4D	PCB6.3S	PCB6.3D	PCB8D
Clear aperture diameter, mm	2.5		3.5		5.8		7
Quantity of crystals	1	2	1	2	1	2	2
λ/4 voltage (@ 1064 nm), kV DC	<3.5	<1.8	<4.6	<2.3	<7.5	<3.8	<4.6
Capacitance, pF	4	6	3	6	6	<8	<8
Optical transmission, %	> 98		>97		>98		
Contrast ratio <sup>1)</sup>	>1:1000	>1:500	>1:1000	>1:500	>1:1000	>1:500	>1:500
Dimensions, mm	Ø25.4x37.2	Ø25.4x57.2	Ø25.4x37.2	Ø25.4x57.2	Ø25.4x42.2	Ø25.4x57.2	Ø35x64

<sup>1)</sup> Measured by crossed polarizers method.

All crystals are coated AR/AR @1064 nm.  
Other antireflection coatings are available on request.  
Damage threshold >5 J/cm<sup>2</sup> for 10 ns pulses at 1064 nm.

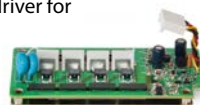
Specifications are subject to changes without advance notice.

RELATED PRODUCTS

PM1 mounting stage for Pockels cells of Ø25.4 mm  
See page 8



DQ high repetition rate Pockels cell driver for Q-switching  
See page 17



DPD cavity dumping & pulse picking Pockels cell drivers  
See page 9

