

KD*P PCKELS CELLS – PC / D-compact / D-mini

Features

- Low absorption and high deuteration material
- High damage threshold dielectric AR coatings for requested wavelengths
- Operating voltage does not depend on crystal aperture, so large apertures are available
- Suitable for fs applications due to low GVD
- Single-crystal based three terminal design available upon request

Applications

- Q-switching of flashlamp pumped high energy and low repetition rate diode pumped lasers
- Pulse picking
- Laser cavity dumping

KD*P (DKDP) is one of the electro-optical crystals used for Pockels cells. The most popular application of KD*P (DKDP) crystal based Pockels cell is Q-switching of laser cavity. DKDP Pockels cell can be used for lasers emitting in the range of 400 – 1100 nm.

High energy and short output pulse formation during Q-switching of laser cavity process is realized with KD*P (DKDP) Pockels cell in the most of commercially available flashlamp pumped Nd:YAG and Ruby lasers, low repetition rate DPSS lasers like Nd:YAG, Nd:KGW, Nd:YLF, Nd:Glass and other lasers.

Electro-optical KD*P (DKDP) crystals produced by EKSMA Optics have high damage threshold dielectric AR coatings (LIDT > 10 J/cm², 10 ns, 10 Hz, 1064 nm), feature long lifetime without degradation of the coatings and show reliable operation with pulsed high energy lasers.

PC12SR, PC20SR, D-Compact, D-Mini and three terminal DKDP Pockels cells have AR-coated protective windows on both ends. Windows can be flat or wedged or in non-parallel, laser beam shift compensating configuration to eliminate etalon effects in the Pockels cell and laser cavity.

The rectangular shape PC5S, PC5D and PC10S DKDP Pockels cells are provided without protective windows and typically are used in hermetically sealed lasers.

Single-crystal based three terminal DKDP Pockels cell series are designed especially to be controlled by bipolar Pockels cell drivers. Ground connector is located in the center, positive and negative connectors are located on the sides.

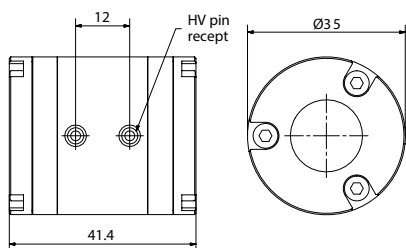
EKSMA Optics offers wide range of HV drivers for the Pockels cells and power supplies for the drivers which are presented in the next chapter of this catalogue.



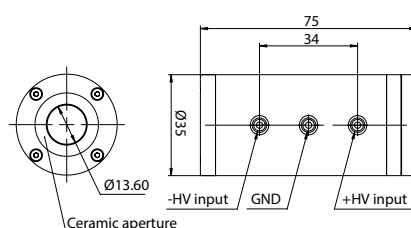
Specifications

MODEL	PC20SR	PC14x45SR	PC12SR	D-compact/12	D-compact/9	D-mini/9	D-mini/8	PC10S	PC5S
Clear aperture, mm	Ø 18	Ø 13		Ø 11		Ø 8	Ø 7	9.5 × 9.5	4.5 × 4.5
Quantity of crystals	1								
λ/4 @ 1064 nm voltage, kV DC	< 3.4	< ±1.7						< 3.4	
Capacitance, pF (typical)	< 10			6			3	4	1.5
Optical transmission	> 97 % at 1064 nm								
LIDT of AR coatings	> 1 GW/cm ² (10 J/cm ²), 1064 nm, 10 Hz, 10 ns								
Contrast ratio	> 1:2000								
Cell size, mm	Ø35x51	Ø35x75	Ø35x41.4	Ø25.4x39	Ø25.4x35	Ø19x25.4	Ø19x19	22x18x33	18x14x25

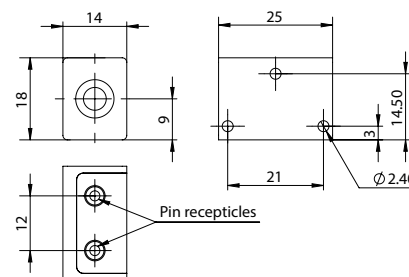
Specifications are subject to change without advance notice.



PC12SR drawing



PC14x45SR drawing



PC5S drawing