

KD*P Pockels Cells

The **KD*P Pockels cell** is a laser modulation component based on the electro-optic effect of the DKDP crystal. The products can be divided into transverse electro-optical effect series and longitudinal electro-optical effect series.

The products of the transverse electro-optical effect series utilize the transverse electro-optical effect of DKDP crystals when the light propagation direction is perpendicular to the electric field. By controlling the number and size of the crystals, the working voltage is effectively reduced to hundreds volt level, and the repetition frequency can reach up to 1 MHz.

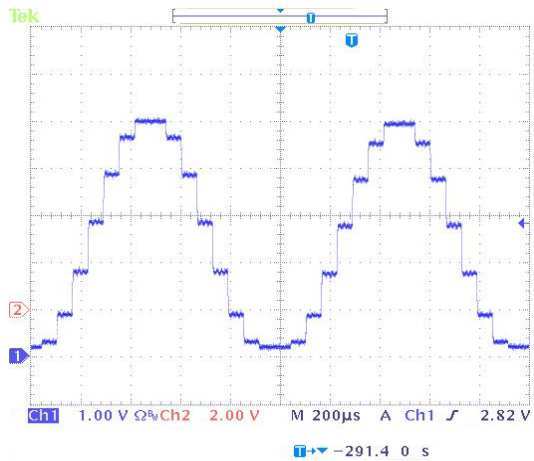
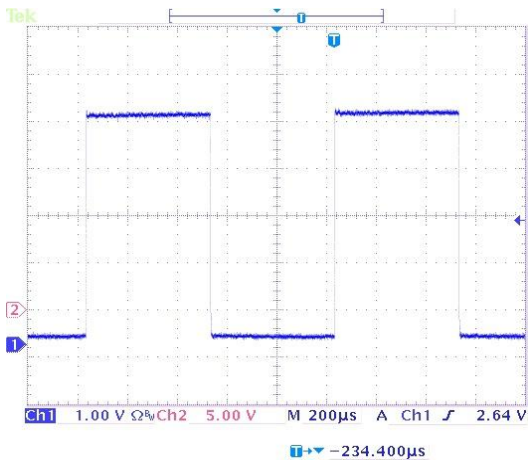
The longitudinal electro-optical effect series products utilize the longitudinal electro-optical effect of the DKDP crystal when the propagation direction of light is parallel to the electric field. CASTECH's longitudinal KD*P Pockels cell has excellent optical uniformity, high extinction ratio, and high transmittance.

CASTECH can provide a series of products with BNC connectors, as well as accessories such as polarizers, wave plates and ceramic plates, to facilitate impedance matching.

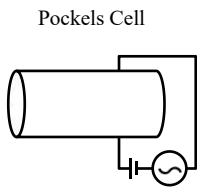


Applications

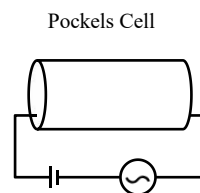
- Q-switching
- Regenerative amplifier
- Pulse picker
- Cavity dumping
- Beam chopper
- High speed optical switch
- Optical power stabilizer



Typical modulation waveform of transverse electrode configuration



Schematic diagram of transverse electrode configuration



Schematic diagram of longitudinal electrode configuration

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Longitudinal Electro-Optical Type Model Number: **DPC-taq-c-b-w**

Type(t)	Clear Aperture(a)	Type(q)	Cascade Type(c)	Optional Accessories(b)	Wavelength(w)
L (Longitudinal Electrode Configuration)	6(6 mm) 7(7 mm) 8(8 mm) 10(10 mm) 12(12 mm) 15(15 mm) ...	S (Single) D (Double) ...	P (Pin) W (Wire) ...	C (Ceramic) W (Wave plate) B (Brewster window) A (Brewster window) & Wave plate N (None) ...	355 nm 532 nm 1030 nm 1064 nm ...

Transverse Electro-Optical Type Model Number: **DPT-alq-b-w**

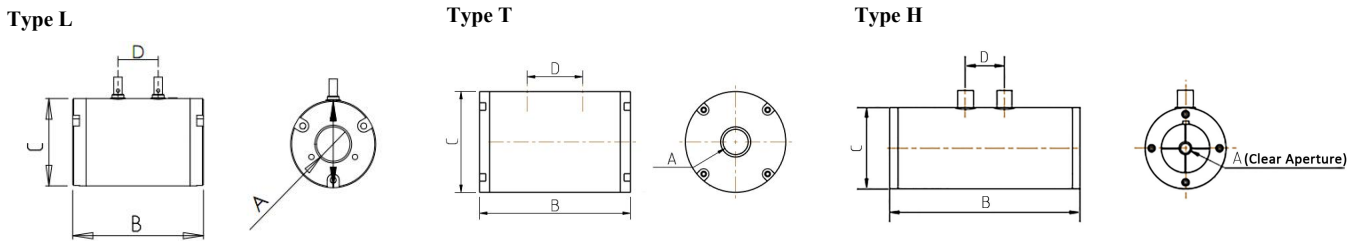
Type(t)	Clear Aperture(a)	Crystal Length(l)	Cascade Type(q)	Optional Accessories(b)	Wavelength(w)
T (Low Repetition Frequency) H (High Repetition Frequency)	3(3 mm) 4(4 mm) 5(5 mm) 6(6 mm) 7(7 mm) 8(8 mm) 10(10 mm) ...	A (20 mm) B (25 mm) C (40 mm) ...	D (Double) Q (Four) ...	W (Wave plate) B (Polarizer) A (Brewster window) & Wave plate N (None) ...	355 nm 405 nm 532 nm 1030 nm 1064 nm ...

Typical Specifications*

Type	Clear Aperture	Voltage Contrast Ratio @1064 nm	Rise/Fall Time	Cascade Type	Transmission @1064 nm
Longitudinal	6~15 mm	≥1000:1	<20 ns	Single	≥98.5%
Transverse	3~10 mm	≥500:1	<20 ns	Double	≥98%

*Damage threshold: 10 J/cm² @ 1064 nm, 10 ns

Housing dimensions(mm):



	L8S	L10S	L12S	L15S	3BD(H)	5BD(H)	10AD(T)
A	8	10	12	15	3	5	10
B	28	39	44	44	70	66	60
C	19	25.4	25.4	30	40	50	40
D	10	12	15	15	22	24	22
λ/4 voltage @ 1064 nm	3.5kV	3.5kV	3.5kV	3.5kV	0.6kV	1.0kV	2.1kV