

# Low modulation frequency electro-optic switch

## General Situation

Pockels cell is a modulator about polarized light designed based on the Pockels effect. It is a key component in the laser cavity Q-switching, pulse selection and regenerative amplification system, and one of the best choices for intensity, phase and frequency modulation in laser processing and detection equipment.

## Description

Goptica designed the Pockels cell with high repetition frequency, weak ringing, high damage threshold and low loss qualities based on foreign advanced technology. By designing a stable and reliable structure and electrode scheme, an effective thermal management scheme can be achieved, which can significantly reduce the impact of the external environment, improve the reliability of the device, and reduce the loss of high-frequency signals during transmission.



Goptica have designed and developed Pockels cell including DKDP, BBO, RTP and KTP series, covering the frequency range from Hz to 60 MHz, and the performance reaches the international equivalent level. DKDP series use the transverse or longitudinal electro-optic effect, covered with wavelength range from 300nm to 1300 nm, the required voltage of the transverse can be controlled within 100 volts and the diameter of the longitudinal can reach 15 mm; BBO series used in the range of 250–1650 nm, the required voltage from 100 volts to thousands of volts; RTP series used in the range of 350–3500 nm, and its frequency can reach to 100 kHz, aperture up to 10 mm; KTP series selects the hydrothermal KTP to solve “spot nevus discoloration” phenomenon.

## Parameter

Product Code	Optical Material	Working Wavelength (nm)	Active Aperture (mm)	Transmittance	Dynamic Extinction Ratio	$V \lambda / 4$	Cooling
PCR1009-D030-080-920	DKDP	920	8	>98%	$\geq 1000:1$	<3200	Conduction-cooled
PCR1010-D040-080-1030	DKDP	1030	8	>98%	$\geq 1000:1$	<3500	Conduction-cooled
PCR1011-D034-110-1064	DKDP	1064	11	>97%	$\geq 2000:1$	<3400	Conduction-cooled
PCR1012-D034-100-1045	DKDP	1045	10	>98%	$\geq 2000:1$	<3200	Conduction-cooled
PCR1013-D035-093-1064	DKDP	1064	9.3	>98%	$\geq 5000:1$	$\leq 3500$	Conduction-cooled