

High 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.

Product Introduction

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 has 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.

Product Introduction

Product Code	Optical Material	Working Wavelength (nm)	Active Aperture (mm)	Transmittance	Dynamic Extinction Ratio	$V_{\lambda/4}$	Cooling
PCR1001-B047-040-1064	BBO	1064	4	$\geq 99.2\%$	$\geq 1200:1$	≤ 4700	Conduction-cooled
PCR1002-B035-040-920	BBO	920	4	$\geq 99.2\%$	$\geq 1200:1$	≤ 3500	Conduction-cooled

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Parameter

Product Code	Optical Material	Working Wavelength (nm)	Active Aperture (mm)	Transmittance	Dynamic Extinction Ratio	$V \lambda / 4$	Cooling
PCR1015-B037-040-1030	BBO	1030	4	$\geq 99.2\%$	$\geq 1000:1$	≤ 3700	Conduction-cooled
PCR1016-B014-030-532	BBO	532	3	$> 99.2\%$	$\geq 1200:1$	≤ 1400	Conduction-cooled
PCR2006-B024-040-1030	BBO	1030	4	$> 99\%$	$\geq 1000:1$	≤ 2400	Conduction-cooled
PCR2007-D002-030-532	DKDP	532	3	$> 90\%$	$\geq 200:1$	≤ 240	Conduction-cooled
PCR2008-B020-040-266	BBO	266	4	$> 97\%$	$\geq 500:1$	≤ 1000	Conduction-cooled
PCR2009-D002-030-520	DKDP	520	3	$> 97\%$	$\geq 200:1$	≤ 235	Conduction-cooled
PCR2010-D002-030-800	DKDP	800	3	$> 90\%$	$\geq 200:1$	≤ 220	Conduction-cooled
PCR2011-B015-030-920	BBO	920	3	$> 98\%$	$\geq 1000:1$	≤ 1500	Conduction-cooled
PCR2012-B050-030-2800	BBO	2800	3	$> 85\%$	$\geq 500:1$	≤ 5000	Conduction-cooled
PCR2013-D003-030-920	DKDP	920	3	$> 90\%$	$\geq 200:1$	< 300	Conduction-cooled
PCR2014-D004-050-1030	DKDP	1030	5	$> 90\%$	$\geq 100:1$	< 420	Conduction-cooled
PCR2015-L001-015-775	MLN	775	1.5	$> 99\%$	$\geq 100:1$	≤ 65	Conduction-cooled
PCR2016-L001-015-1550	MLN	1550	1.5	$> 99\%$	$\geq 100:1$	≤ 65	Conduction-cooled
PCR2017-B018-030-1030	BBO	1030	3	$> 99\%$	$\geq 1000:1$	≤ 1800	Conduction-cooled
PCR2018-D002-030-650	DKDP	650	3	$> 90\%$	$\geq 150:1$	< 160	Conduction-cooled
PCR2019-B006-030-355	BBO	355	3	$> 98\%$	$\geq 500:1$	≤ 600	Conduction-cooled
PCR2020-B027-060-800	BBO	800	6	$> 98\%$	$\geq 500:1$	≤ 2700	Conduction-cooled
PCR2021-D004-030-1030	DKDP	1030	3	$> 98\%$	$\geq 300:1$	< 230	Conduction-cooled
PCR2022-B020-036-1064	BBO	1064	3.6	$> 99\%$	$\geq 1000:1$	≤ 2000	Conduction-cooled
PCR2023-B017-030-1000	BBO	1000	3	$> 70\%$	$\geq 1000:1$	$\leq 1700V$	Conduction-cooled
PCR2024-D002-050-640	DKDP	640	5	$> 90\%$	$\geq 100:1$	< 270	Conduction-cooled
PCR2025-D002-030-460	DKDP	460	3	$> 95\%$	$\geq 200:1$	< 207	Conduction-cooled

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PCR2026-D003-030-1064	DKDP	1064	3	>98%	≥200: 1	<280	Conduction-cooled
PCR2027-B038-030-2100	BBO	2100	3	>85%	≥500: 1	≤3800	Conduction-cooled
PCR2029-L001-030-1550	MgO:LN	1550	3	>99%	≥50: 1	90	Conduction-cooled
PCR2030-L001-015-1550	MgO:LN	1550	1.5	>99%	≥50: 1	45	Conduction-cooled
PCR2031-B038-060-1064	BBO	1064	6	>98.2%	≥500: 1	≤3800	Conduction-cooled
PCS1004-B025-020-1030	BBO	1030	2	>98%	≥1000: 1	≤2500	Conduction-cooled
PCS1005-B021-016-1064	BBO	1064	1.6	>98%	≥300: 1	<2100	Conduction-cooled
PCS2002-B045-080-1030	BBO	1030	8	>98%	≥500: 1	≤4500	Water cooling
PCS2003-B057-100-1030	BBO	1030	10	≥99.5%	≥500: 1	5700	Water cooling
PCS2004-K024-060-1030	KDP	1030	6	≥99%	≥200: 1	≤2400	Conduction-cooled
PCS2005-L002-020-1250	MLN	1250	2	≥96%	≥10: 1	≤205	Water cooling
PCS2006-R032-080-1064	RTP	1064	8	≥98 %	≥100:1	≤3200 V	Conduction-cooled
PCS2028-R008-030-2100	RTP	2100	3	≥90 %	≥100:1	≤800 V	Conduction-cooled