

BBO 普克尔斯盒

BBO Pockels Cells



当电压施加到 BBO 电光晶体的电极时, BBO 普克尔斯盒是用来改变通过它的光的偏振状态。常规的应用包括激光腔的调 Q、激光腔倒空和耦合光的形成再生放大器。低压电振铃使得 BBO 普克尔斯盒对高功率、高重复频率激光器的控制具有很大的吸引力。快速开关电子驱动器适当匹配的电池可用于 q 开关, 腔倾倒和其他应用。

BBO 普克尔斯盒是横向场器件。四分之一波电压与电极间距和晶体长度的比值成正比, 因此孔径较小, 四分之一波电压较低, 双晶设计具有较低的四分之一波电压, 广泛应用于开关时间快的半波工作模式。

BBO-based pockels cell are used to change the polarization state of light passing through it when an voltage is applied to the electrodes of BBO electro-optic crystals. Typical applications include Q-switching of the laser cavity, laser cavity dumping and coupling light into and form regenerations amplifiers. Low piezoelectric ringing makes BBO Pockels cell attractive for the control of high-power and high repetition rate lasers. Fast switching electronic drivers properly matched to the cell are available for Q-switching, cavity dumping and other applications.

BBO Pockels cells are transverse field devices. The quarter-wave voltage is proportional to the ratio of electrode spacing and crystal length, therefor, smaller aperture, lower quarter-wave voltage, besides, double crystal design, which has lower quarter-wave voltage, is widely used to work in half-wave mode with fast switching times.

主要特点 Features

- 弱的压电振铃效应

Minimal piezoelectric ringing

- 极低的吸收系数

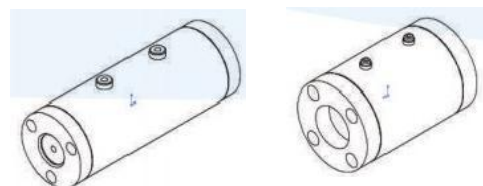
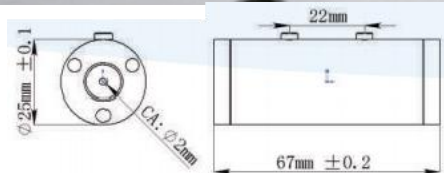
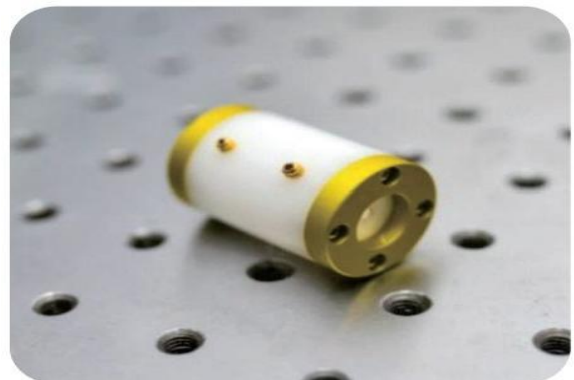
Low absorption

- 更宽的光谱透过范围 (210-2000nm)

Broad transmission ranges from 200nm to 2000nm

- 紧凑的尺寸

Compact size



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性能参数:

通光口径 (Aperture):	1.8mm		2.8mm		3.6mm	
四分之一波电压 (Quarter-Wave Vlotage)	2400V	1900V	3600V	2900V	4800V	3900V
电容值 (Capacitance)	4pF	5pF	4pF	5pF	4pF	5pF
消光比(Extinction Ratio):	1000:1					
波前畸变(Wave front Distortion):	< $\lambda/8$ @633nm					
光损伤阈值(Optical damage):	600 MW/cm ² 1064nm 10ns 10Hz					
波长范围 (Wavelength Range):	190-3500nm					
光折变(Inserion Loss)	<2%					