

# KTP Pockels Cells



## DESCRIPTION

KTP ( $\text{KTiOPO}_4$ ) pockels cells, also known as potassium titanium phosphate oxide pockels cells, is a comprehensive and excellent pockels cells. A device with a high damage threshold, high duty cycle operation, and very low piezoelectric resonance can be used in the related fields of femtosecond lasers, and pulse selectors for high repetition frequency lasers, and Q-switches for high repetition frequency lasers. KTP pocket cells overcome the disadvantages of the low optical damage threshold of  $\text{LiNbO}_3$  crystal pocket cells and the disadvantages of relatively high half-wave voltage and easy deliquescence of  $\text{KD}^*\text{P}$  crystal pockels cells. Compared with RTP crystals, KTP crystals have better optical uniformity and a higher damage threshold. The outstanding feature is that KTP electro-optical switches can operate at high duty cycles and can maintain high voltages even for longer periods.

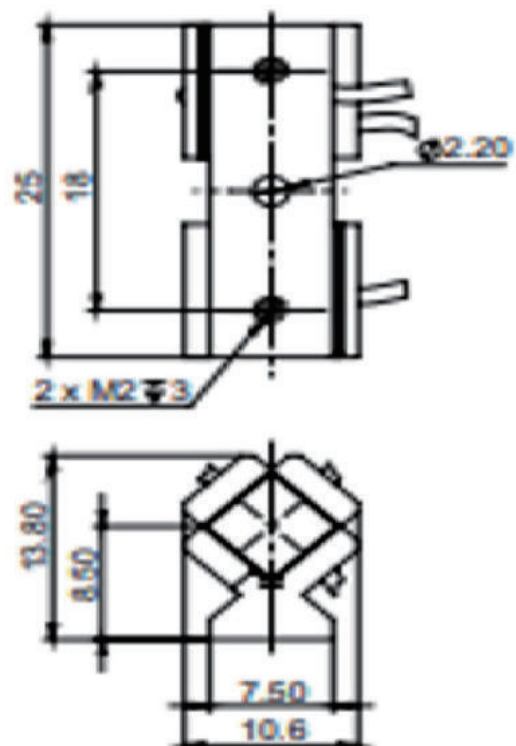
## FEATURES

- Easily deliquescent
- High damage threshold
- High duty cycle operation
- Higher half-wave voltage
- Very low piezoelectric resonance
- Twice the battery voltage requirement compared to dual BBO Pockels Cells

## APPLICATIONS

- Femtosecond Lasers
- Q-switching of high repetition frequency lasers
- Pulse selector for high repetition frequency lasers

## STRUCTURE



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## POCKELS CELLS MODEL PARAMETERS

Model	CL4	CL6
Aperture(mm)	Φ3.5mm	Φ5.5mm
Crystal size(mm)	4×4	6×6
Crystal length(mm)	10	10
Number of crystals	2	2
Half wave voltage @1064nm	<1.8KV DC	<2.8KV DC
Capacitance	4pF	<6pF
Transmittance	.>98%	>98%
Extinction ratio	>500:1	>500:1
Housing size(mm)	Φ25.4	Φ25.4
Shell length(mm)	42.2	42.2

## PHYSICAL CHARACTERISTICS

Phase Matching Range	980-3400nm	
Flatness	<λ/8 @633nm	
Wavefront distortion	<λ/8 @633nm	
Transfer surface parallelism	<20 arc seconds	
Electrical conductivity	3.5×10 <sup>-8</sup> s/cm (22°C,1KHz)	
Electro-optical coefficient	Low Frequency (pm/V)	High Frequency (pm/V)
	r <sub>13</sub> =9.5	r <sub>13</sub> =8.8
	r <sub>23</sub> =15.7	r <sub>23</sub> =13.8
	r <sub>33</sub> =36.3	r <sub>33</sub> =35
	r <sub>51</sub> =7.3	r <sub>51</sub> =6.9
	r <sub>42</sub> =9.3	r <sub>42</sub> =8.8

