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KD*P Pockels Cell

Product Description

KD*P (Potassium Dideuterium Phosphate) is the most widely used material for electro-optical applications due to its excellent E-O properties. An electro-optic material such as KD*P can alter the polarization state of light passing through it, when an applied voltage induces birefringence change in the crystal.



Features

- High Extinction Ratio
- Low insertion loss
- High damage threshold
- Low capacitance
- Low current leakage
- Low cost

Performance Specifications

KD*P Pockels Cell	Spec
Chemical Formula	KD ₂ PO ₄
Transparency Range	200~1600nm
Insertion Loss	<2%
Collimation	<0.5°
Wave front distortion	λ/6@633nm
Clear Aperture	Φ9mm
Coatings	AR@1064nm(R<0.2%)
Nonlinear Coefficients	d ₃₆ =0.40pm/V
Refractive Index(1064nm)	No=1.4948, Ne=1.4554
E-O Coefficients	r ₄₁ =8.8pm/V, r ₆₃ =25pm/V
Longitudinal Half-wave Voltage	V _n =2.98KV (546nm)
Quarter-wave voltage	~3400V
Absorptance	0.006/cm
Optical Damage Threshold	> 1GW/ cm ² 10ns 10Hz at 1064nm
Extinction Ratio	> 30dB
Size	Φ25.4×39mm
Voltage Extinction Ratio	>2000:1 (CP) >1500:1 (PP)
Capacitance	< 6pF
Scratch/Dig	20/10

Applications

- Industrial laser system
- Medical Laser system
- Aesthetic Laser system
- Military Laser system

*Sellmeier equations of KD*P:(λ in um):

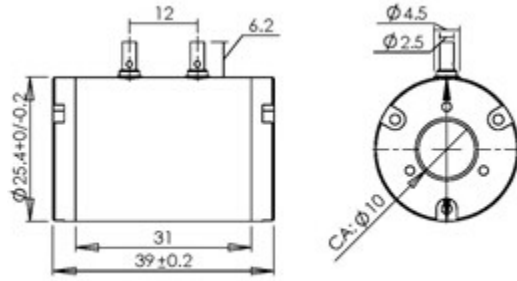
$$n_o^2 = 1.9575544 + 0.2901391\lambda^2 / (\lambda^2 - 0.0281399) - 0.02824391\lambda^2 + 0.004977826\lambda^2$$

$$n_e^2 = 1.5005779 + 0.6276034\lambda^2 / (\lambda^2 - 0.0131558) - 0.01054063\lambda^2 + 0.002243821\lambda^2$$

Revised on 5/2/21
 (Click here for latest revision)

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Mechanical Dimensions (Unit: mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

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	Type	Wavelength			Aperture Size	
PCDK		0550=430-700 nm 0850=700-1000 nm 1064=1064 nm			1= 9mm	