KD*P POCKELS CELLS

DESCRIPTION

DKDP (KD_2PO_4) pockets cells, also known as potassium deuterium phosphate pocket cells or DKDP pocket cells, are a pockets cells device with excellent overall performance. DKDP crystals have a low optical loss, high extinction ratio, good electro-optical properties, and good tolerance to the environment, etc. They can be used in electro-optical Q-switches, high-speed camera switches, military, and aviation laser systems, and dye lasers 800 nm two- and three-fold and 1064 nm two-, three- and four-fold fields. Ambient temperature range: 10~50 degrees, temperature change should not exceed 5 degrees every 20 minutes, ambient humidity: <40%, try to use with a humidity control device (desiccant and desiccator), when not in use, please store in a dry box.

FEATURES

- Non-Static Birefringence
- No light refraction damage
- High resistance to photodamage threshold
- Excellent electro-optical coefficient
- Good tolerance to environment
- Good airtightness and no adhesive
- DKDP crystals with high deuterium content

APPLICATIONS

- Electro-optical modulation
- Electro-optical Q-regulation
- High-speed camera switch
- Medical / Cosmetic Laser
- Multifunctional R&D laser platform
- Military and Aerospace Laser Systems

KD*P PHYSICAL CHARACTERISTICS

Insertion loss	<0.2%
Wavefront distortion	<λ/6 @633nm
Voltage extinction ratio	>2000:1(cp) >1500:1(cp)
quasi-straight	<0.5°
Quarter-wave voltage	~3400V
Surface quality	20/10
Capacitance	6~10pF
Light Passing Aperture	≥90%
Coatings	AR @1064nm (R<0.2%) or customized upon request
Damage Threshold	1GW/cm^2 10ns 10Hz @1064nm

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KD*P PHYSICAL CHARACTERISTICS

Chemical formula	KD_2PO_4
Transparency range	200-1600nm
Nonlinear coefficient	d_{36}=0.40pm/V
Refractive index	n_o=1.4948,n_e=1.4554
Electro-optical coefficient	r_{41}=8.8pm/V,r_{63}=25pm/V
Longitudinal half-wave voltage	Uπ=2.98KV(λ=546nm)
Optical damage threshold	1GW/cm^2 @10ns 1064nm
Extinction ratio	>30dB
Sellmeier equation	n_o^2=1.9575544+0.2901391λ^2/(λ^2-0.0281399)-0.0282439
	n_e^2=1.5005779+0.6276034λ^2/(λ^2-0.0131558)-0.0105406

STRUCTURE