

RTP Rubidium Titanium Oxide Phosphate :

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RTP Rubidium Titanium oxide Phosphate crystal is an excellent nonlinear optical crystal, an isomer of potassium titanium phosphate (KTP), with a large nonlinear optical coefficient, and a wide range of near-mid-infrared light transmittance. Due to its excellent characteristics such as high resistivity, low piezoelectric effect, high laser damage resistance threshold and non-easy tidal solution, it is widely used in photoelectric technology fields such as electro-optical modulation and laser Q switching.



Using 1.0 μ M-band laser pumped non critical phase matching cut RTP nonlinear crystals and their isomorphs can achieve efficient 1.5-1.6 μ m band eye safe laser, has important applications in the field of nonlinear optical frequency conversion.

Main features:

- Non deliquescence
- Small size
- high resistivity
- High extinction ratio
- No piezoelectric effect
- Wide transparency range
- High damage threshold
- high temperature stability
- Low half wave voltage
- Suitable for high-frequency operation
- Stable mechanical and chemical properties
- Large nonlinear optical and electro-optical coefficients

Product Parameter:

Direction of growth	Along the Y axis
Maximum length (5x5mm ap)	25mm
Length tolerances (mm)	+0.5/-0.1
Width and height Tolerances	±0.1
Parallelism	< 30"
Verticality	< 15'
Finish	20/10
Coating film	reflection reducing coating

Product introduction- - - - -nonlinear crystals

Material Properties:



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Shanghai Opticrystal Materials Co., Ltd

Crystal structure	rhombic system
Cell parameters	$a = 12.96 \text{ \AA}$. $b = 10.56 \text{ \AA}$. $c = 6.49 \text{ \AA}$
Mohs hardness	About 5
Density (g/cm ³)	3.6
Melting point	About 1000°C
Coefficient of thermal expansion (/ K)	$\alpha_x = 1.01 \times 10^{-5}$, $\alpha_y = 1.37 \times 10^{-5}$ $\alpha_z = -4.17 \times 10^{-6}$
Sellmeier Equation (λ in μm)	$n_x^2 = 2.15559 + 0.93307[1 - (0.20994/\lambda)^2] - 0.01452\lambda^2$ $n_y^2 = 2.38494 + 0.73603[1 - (0.23891/\lambda)^2] - 0.01583\lambda^2$ $n_z^2 = 2.27723 + 1.11030[1 - (0.23454/\lambda)^2] - 0.01995\lambda^2$
Thermal-light coefficient (d λ / dT)	-0.029 nm /°C
Electro-optical constant (Y-cut) (X correspond to)	$r_{33} = 38.5 \text{ pm/V}$ $r_{33} = 35 \text{ pm/V}$, $r_{23} = 12.5 \text{ pm/V}$, $r_{13} = 10.6 \text{ pm/V}$
Resistivity	About 1011-1012ohm-cm
1064 nm static half-wavelength operating voltage	4x4x20 mm: 1,600 V 6x6x20 mm: 2,400 V 9x9x20 mm: 3,600 V
Extinction ratio	> 20dB@633nm