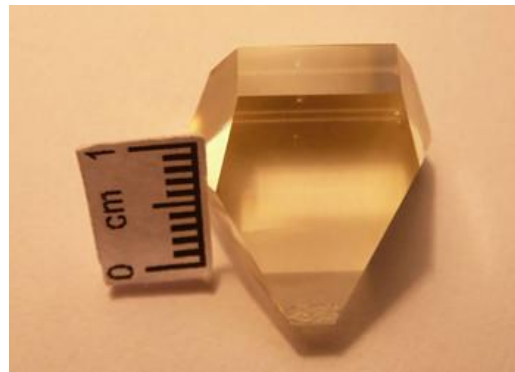
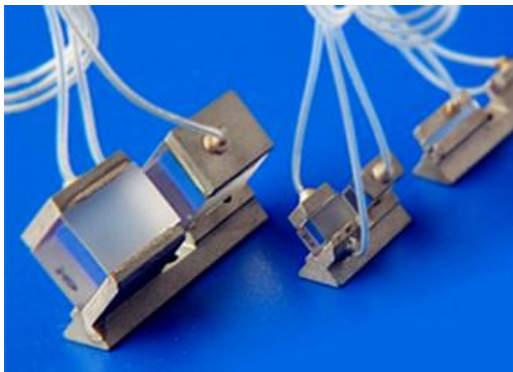


## RTP Crystals - Rubidium Titanyl Phosphate Crystal

- **Reliable homogeneity and high laser damage threshold**
- **Non-hygroscopic and low absorption losses**
- **No acoustic ringing and stability over a wide temperature range(-60°C--+80°C)**

RTP (Rubidium Titanyle Phosphate -  $\text{RbTiOPO}_4$ ) is an isomorph of KTP crystal which is used in nonlinear and electro optical applications. It has advantages of higher damage threshold(about 1.8 times of KTP), high resistivity, high repetition rate, no hygroscopic and no induce piezo-electric effect with electrical signals up to 60 kHz. Its transmission range is 350nm to 4500nm. Hangzhou Shalom Eo offers the custom **RTP crystals** upon customer's request.



## SPECIFICATIONS

Specifications	
Growing Orientation	Along Y-axis
Maximum length(5x5mm)	25mm
Length tolerance, mm	+0.5 / -0.1
Width and height tolerance, mm	+/-0.1
Parallelism	< 30"
Perpendicularity	< 15'
Surface quality	20/10
coating	AR-coated

Basic properties	
Crystal structure	Orthorhombic
Cell Parameters	$a = 12.96 \text{ \AA}; b = 10.56 \text{ \AA}; c = 6.49 \text{ \AA}$
Mohs hardness	About 5
Density, $\text{g/cm}^3$	3.6
Melting Point	About $1000^\circ\text{C}$
Thermal Expansion Coefficients (/K)	$\alpha_x = 1.01 \times 10^{-5}, \alpha_y = 1.37 \times 10^{-5}, \alpha_z = -4.17 \times 10^{-6}$
Sellmeier equations( $\lambda$ in $\mu\text{m}$ )	$n_x^2 = 2.15559 + 0.93307[1 - (0.20994/\lambda)^2] - 0.01452\lambda^2$ $n_y^2 = 2.38494 + 0.73603[1 - (0.23891/\lambda)^2] - 0.01583\lambda^2$ $n_z^2 = 2.27723 + 1.11030[1 - (0.23454/\lambda)^2] - 0.01995\lambda^2$
Thermo-optical coefficients ( $d\lambda/dT$ )	$-0.029 \text{ nm} / ^\circ\text{C}$
Electro-optic constants(Y-cut) (X-cut)	$r_{33} = 38.5 \text{ pm/V}$ $r_{33} = 35 \text{ pm/V}, r_{23} = 12.5 \text{ pm/V}, r_{13} = 10.6 \text{ pm/V}$
Electrical Resistivity	About $10^{11} - 10^{12} \text{ ohm}\cdot\text{cm}$
Static Half Wave Voltage at 1064 nm	$4 \times 4 \times 20 \text{ mm}: 1,600 \text{ V}$ $6 \times 6 \times 20 \text{ mm}: 2,400 \text{ V}$ $9 \times 9 \times 20 \text{ mm}: 3,600 \text{ V}$
Extinction Ratio	$> 20 \text{ dB}@633 \text{ nm}$

## Application Notes

- SHG Nd: lasers at 1064nm
- Electro-Optical Q-switch and modulation for Optical waveguides
- Optical Parametric Amplifiers (OPA) and Oscillators (OPO) application