

RTP

MATCHED SET OF CRYSTALS

Rubidium Titanyle Phosphate - RTiOPO_4

MAIN FEATURES

- Non hygroscopic
- Large electro-optic coefficient
- Excellent extinction ratio
- No piezo- or pyroelectric effects

APPLICATIONS

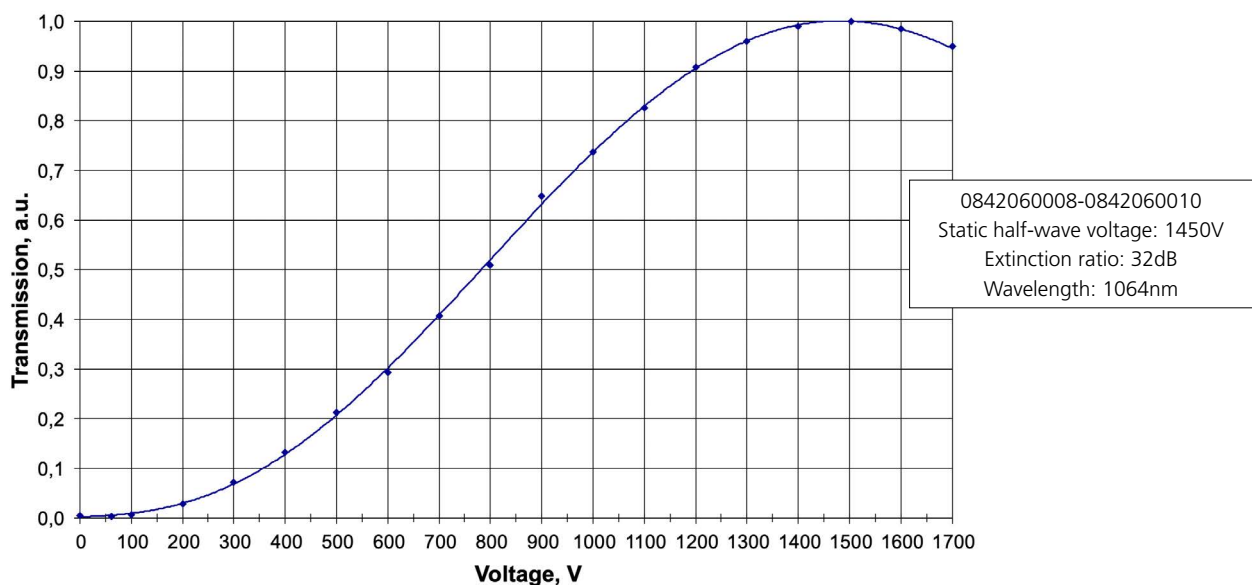
- Pulse-picking in ultrafast laser systems
- Q-switched lasers for space and defence

WHAT MAKES US DIFFERENT?

- Available in cross-sections up to 15x15mm². Custom lengths on request
- Extinction ratio: standard 25dB or better, on request 30dB or better
- No long-term degradation under static HV
- Very precise orientation of optical axes for an easy alignment
- High damage threshold of AR-coatings: >10J/cm² at 1064nm for 10ns pulses
- Deposited gold electrodes on Z-sides on request

TECHNICAL HIGHLIGHTS

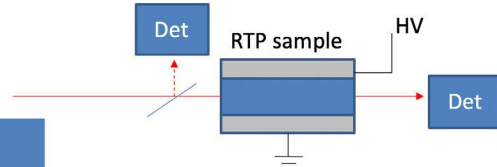
Transfer function and ER measured at 1064nm of a matched set of RTP crystals:
transmission at 0V after a crossed polarizer is close to minimum and ER is better than 30dB



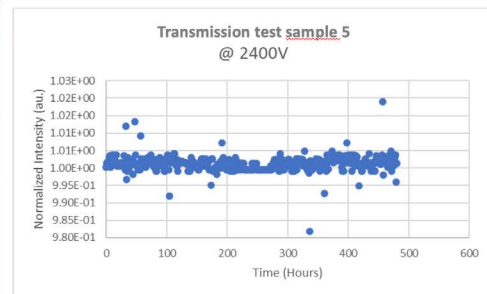
TECHNICAL HIGHLIGHTS

Stability of Cristal Laser's RTP under static voltage- courtesy of Fibertek, USA:
no degradation under 8kV/cm over 500 hours

RTP sample 5 testing



Sample voltage	E field (V/mm)	Run time (hrs.)	Transmission degradation
500	167	29	Negligible
1000	333	45	Negligible
1440	480	117	Negligible
2000	667	141	Negligible
2400	800	480	Negligible
Total hours=812			

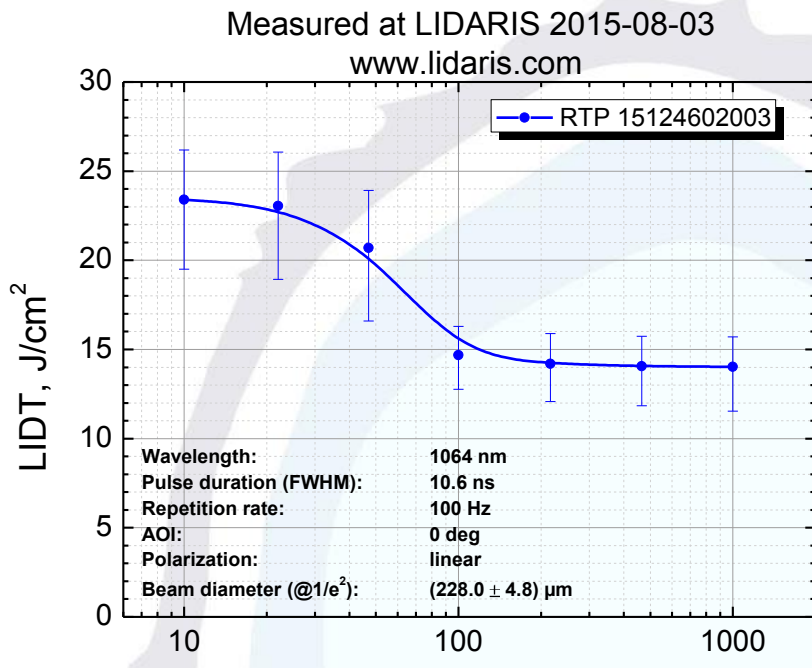


Wavefront transmission of single RTP crystals ($\lambda = 633\text{nm}$):

$\lambda/14$ measured within an 80% circular test area. Crystal dimensions: 8x8x10

	TFO wave	Parall. sec	TiltAng °
1	0.08	1.26	43.52
2	0.07	1.18	40.53
3			
4			
5			
6			
7			
8			
9			
10			
11			
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22			
Range	0.01	0.08	2.99
Mean	0.08	1.22	42.02

TECHNICAL HIGHLIGHTS



Typical laser damage curve
of AR-coated RTP substrates:

threshold > 10J/cm² at 1064nm,
S on 1

SPECIFICATIONS

Aperture	Up to 15x15mm ²
Standard lengths	5, 7, 10 and 12,5mm. Other lengths on request.
Flatness	<λ/10 @633nm
Wavefront distortion	<λ/8 @ 633nm for each crystal
Parallelism	Down to 5"
Perpendicularity	Down to 5 arc min.
Orientation of X- and Z-axes	Better than 0.1°
Bulk absorption	<100 ppm/cm@1064nm
Scratch and dig	<2/1