

RTP ELECTRO-OPTIC ASSEMBLIES

Rubidium Titanyle Phosphate - RTiOPO_4

MAIN FEATURES

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

APPLICATIONS

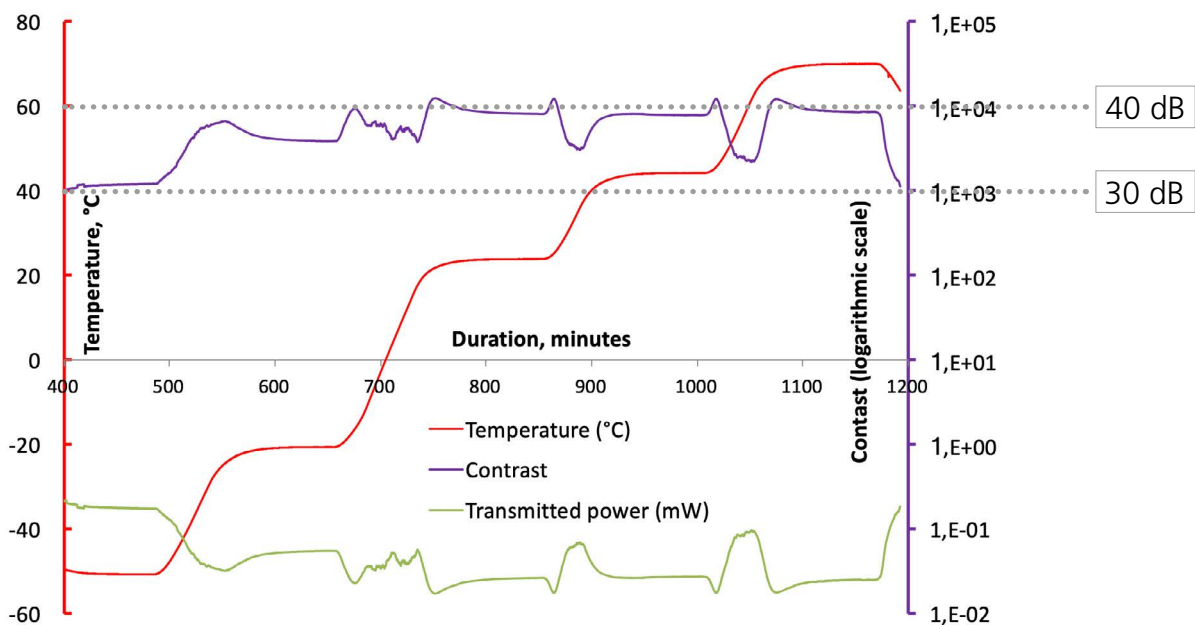
- Pulse-picking
- Q-switched industrial lasers
- Optical switch of regenerative amplifiers
- Q-switched lasers for space and defence

WHAT MAKES US DIFFERENT?

- Available in cross-sections up to $15 \times 15 \text{mm}^2$. Custom lengths on request
- Excellent extinction ratio : $>30 \text{dB}$ measured over a $-50^\circ\text{C}/+70^\circ\text{C}$ temperature range
- No long-term degradation under static HV
- High damage threshold of AR-coatings: $>10 \text{J}/\text{cm}^2$ at 1064nm for 10ns pulses
- Space-qualified assembly process and hardware (Aeolus, Curiosity, Perseverance)

TECHNICAL HIGHLIGHTS

Temperature cycling with ER measurement:
measured ER is 30dB or better over $-50^\circ\text{C}/+70^\circ\text{C}$



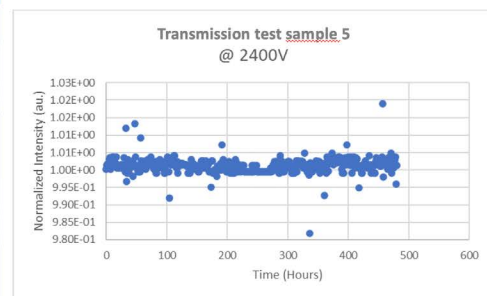
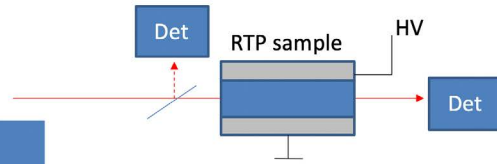
TECHNICAL HIGHLIGHTS

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

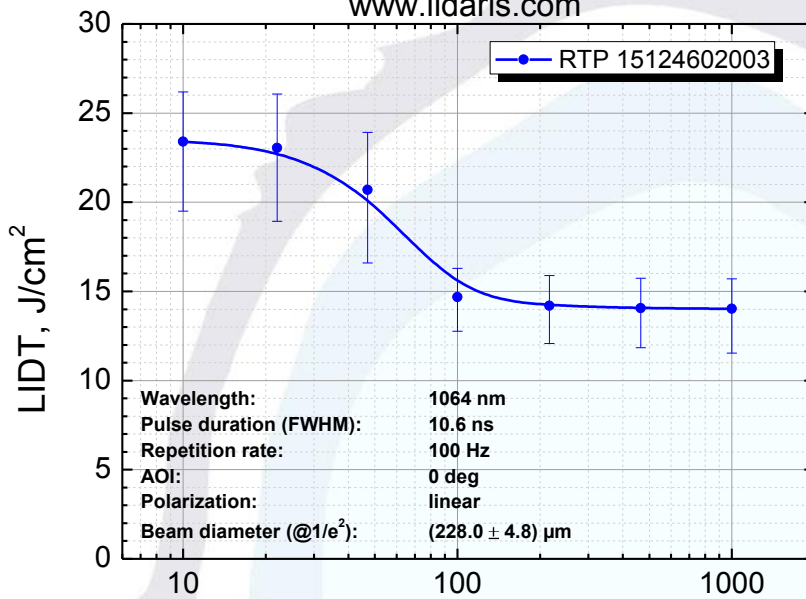
RTP sample 5 testing



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			



Measured at LIDARIS 2015-08-03
www.lidaris.com



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	$<\lambda/10$ @633nm
Wavefront distortion	$<\lambda/8$ @ 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	$<2/1$

