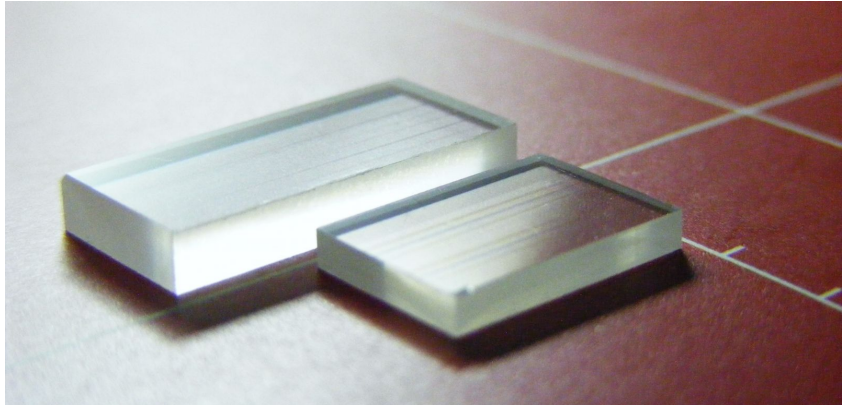


Stoichiometric Lithium Tantalate (SLT)

Product Description

Stoichiometric Lithium Tantalate (SLT) is superior to congruently grown Lithium Tantalate (CLT) as it is closer to ideal ratio of Lithium to Tantalum (50:50). This improved ratio provides the crystal with much lower defect density, thereby reducing the chances for optical damage and improving UV transmittance, at the same time having larger non-linear and electro-optic coefficients. When used in quasi-phase matched applications, SLT requires significantly less voltage during the periodical poling process, thus allowing the manufacture of thicker chips.

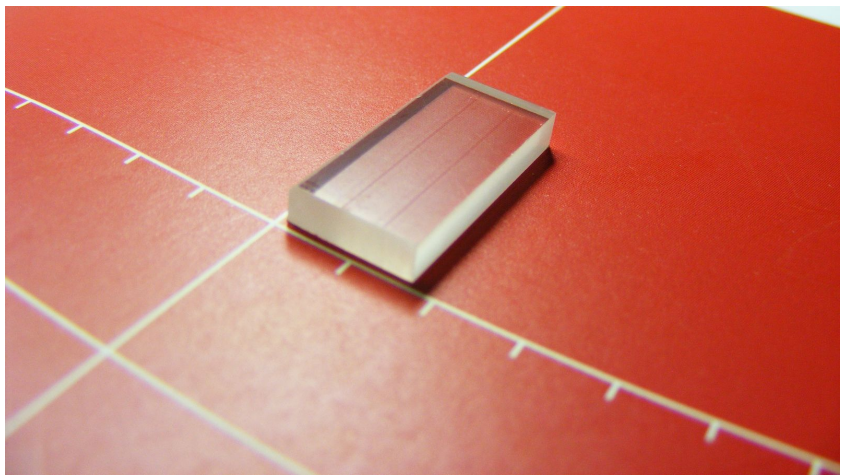


Applications

- Mainly for QPM devices where photorefractive damage resistance in the visible and UV spectrum is required

Features

- Low Coercive Field
- Higher Optical Damage Threshold
- Available Undoped and MgO doped



| Parameters | Nominal Specifications |
|--|---|
| Composition | Stoichiometric LiTaO ₃ (Li/Ta ~ 49.96:50.04) |
| Curie Temperature | 690 °C |
| Space Group | R3c |
| Lattice Parameters (nm) | a = 0.51509 c = 1.3773 |
| Transparent Wavelength Range (nm) | 270 - 5500 |
| Refractive Indices (at 633 nm) | n _e = 2.177 n _o = 2.1745 |
| Birefringence (n _o - n _e) | -0.0025 |
| Linear EO Constants (pm/V) | r ₃₁ = 8.1 r ₃₃ = 33.5 |
| Nonlinear Optical Constants(pm/V) | d ₁₃ = 2.5 d ₃₃ = 16 |
| E-field for Domain Switch (Coercive Field) (kV/mm) | < 1.0 |
| Optical Damage Threshold (kW/cm ²) | > 1000 (undoped) |