

## KTA

Potassium Titanyle Arsenate (KTiOAsO<sub>4</sub>), or KTA crystal, is an excellent nonlinear optical crystal for Optical Parametric Oscillation (OPO) application. It has better non-linear optical and electro-optical coefficients, significantly reduced absorption in the 2.0-5.0 μm region, broad angular and temperature bandwidth, low dielectric constants. And its low ionic conductivities result in higher damage threshold compared with KTP.



Basic Properties	
Crystal Structure	Orthorhombic, Point Group mm2
Lattice Parameter	a=13.125Å, b=6.5716Å, c=10.786Å
Melting Point	1130 °C
Mohs Hardness	near 5
Density	3.454g/cm <sup>3</sup>
Thermal Conductivity	K1:1.8W/m/K; K2: 1.9W/m/K; K3: 2.1W/m/K

Optical and Nonlinear Optical Properties	
Transparency Range	350-5300nm
Absorption Coefficients	@ 1064 nm<0.05%/cm
	@ 1533 nm<0.05%/cm
	@ 3475 nm<5%/cm
NLO Susceptibilities (pm/V)	d <sub>31</sub> = 2.76, d <sub>32</sub> = 4.74, d <sub>33</sub> = 18.5 , d <sub>15</sub> = 2.3, d <sub>24</sub> = 3.2
Electro-optical constants (pm/V) (low frequency)	r <sub>33</sub> =37.5; r <sub>23</sub> =15.4; r <sub>13</sub> =11.5
SHG Phase Matchable Range	1083-3789nm