NEW

KTN ($KTa_xNb_{1-x}O_3$ $x = 0 - 1$)

High Performance Materials for Optical and Electrical Applications

Features

- ✓ **Mutual Characteristics both $KTaO_3$ and $KNbO_3$**
- ✓ **Available for Custom Request of *x***

KTN Single Crystal

	Properties	Applications
Ferroelectric	Large Dielectric Constant	Capacitor, Resonator
	Piezoelectricity and Pyroelectricity	Transducer, Actuator, Optical Detector
	Large Electro-Optic Effects by Pockels Effect	EO Switch, Photorefractive Devices
Paraelectric	by Kerr Effect	Optical Deflector, Vari-Focal Lens
	Large Refractive Index	Ball Lens

Ta:Nb Ratio *x*

※ KTN crystals are products of NTT Advanced Technology Corp.

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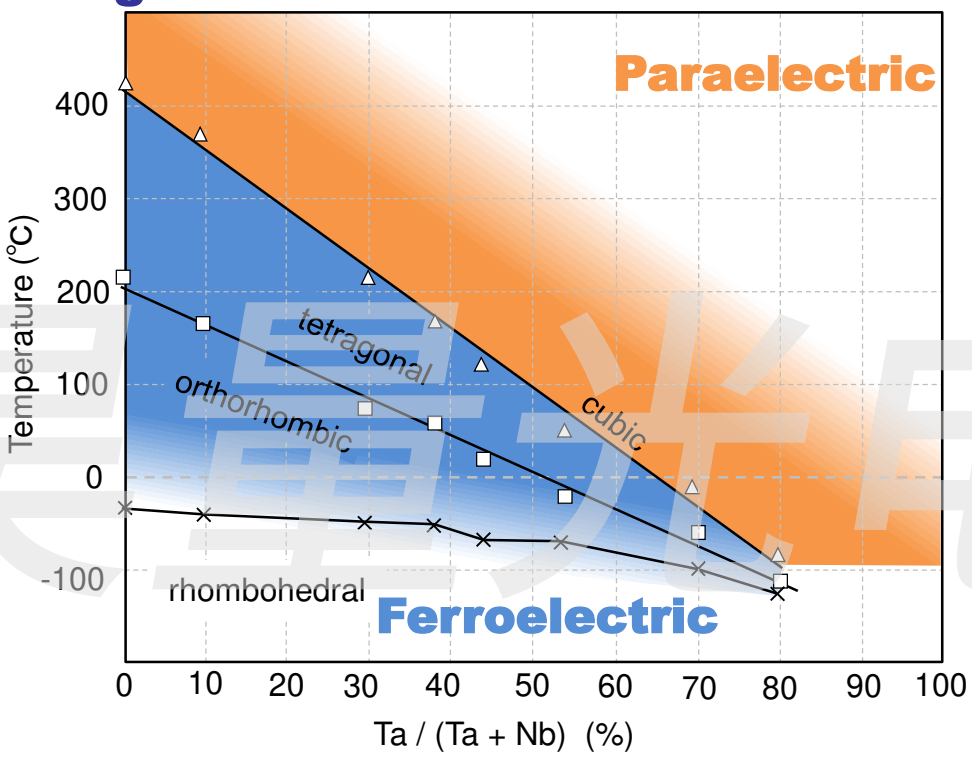
Properties

Transmittance:	Nearly 100% @488 - 3500nm	
Dielectric Constant:	Equal Level to $BaTiO_3$	
Electro-Mechanical Coupling Constant	x17 Higher than $LiTaO_3$ (In Case of x=0)	
EO effect:	Pockels effect	∝(electric field)
	Kerr effect	∝(electric field)²
Refractive Index:	2.14 - 2.33	

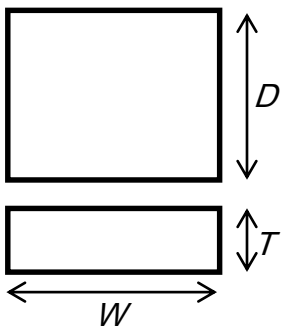
Phase Diagram



Standard Element

Size:

W x D x T (mm)
4.0 x 3.2 x 1.2
5.0 x 5.0 x 1.0
10.0 x 10.0 x 0.5



Composition:
Phase transition temperature between Cubic and Tetra.
T_c = 10-50℃
(composition derived from T_c: x = 0.61-0.69)

Contact for Custom Request