

KTN ($\text{KTa}_x\text{Nb}_{1-x}\text{O}_3$)

$x = 0 - 1$

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

Paraelectric

Ta:Nb Ratio x

Large Dielectric Constants

Capacitor, Resonator

Piezoelectricity and
Pyroelectricity

Transducer, Actuator, Optical
Detector

Large Electro-Optic Effects
by Pockels Effect

EO Switch, Photorefractive
Devices

by Kerr Effect

Optical Deflector, Vari-Focal
Lens

Large Refractive Index

Ball Lens

※ KTN crystals are products of NTT Advanced Technology Corp.

OXIDE

OXIDE Corporation

1747-1 Maginohara, Mukawa, Hokuto, Yamanashi 408-0302 JAPAN
Tel: +81-551-26-0022, Fax: +81-551-26-0033



✉ Sales@opt-oxide.com

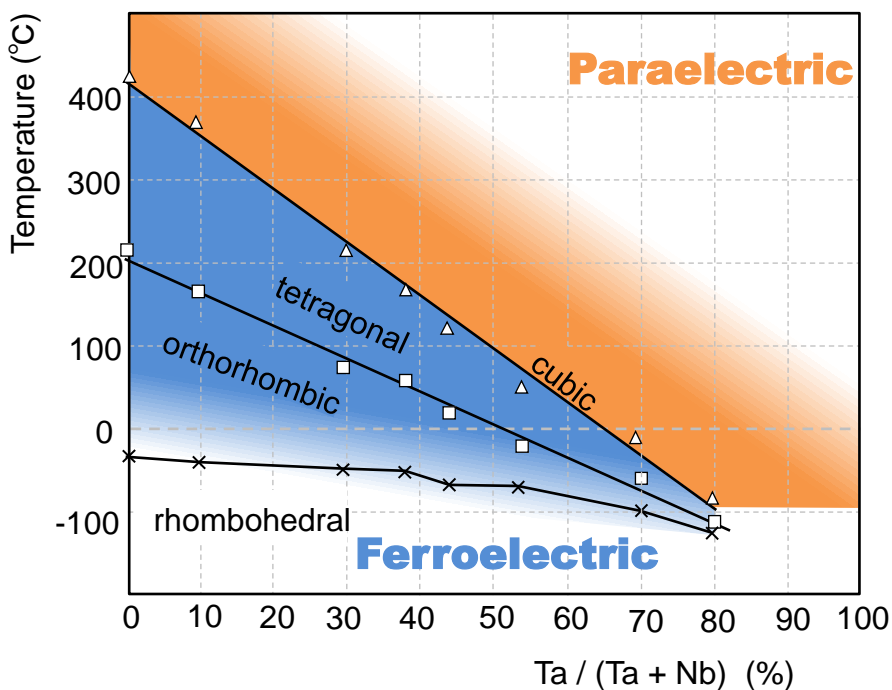
🌐 <https://www.opt-oxide.com>

🐦 Oxide Yamanashi

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	\propto (electric field)
	Kerr effect	\propto (electric field) ²
Refractive Index:	2.14 - 2.33	

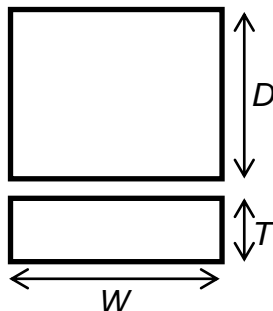
Phase Diagram



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.

$T_c = 10-50^\circ\text{C}$

(composition derived from T_c : $x = 0.61-0.69$)

Contact for Custom Request

OXIDE

OXIDE Corporation

1747-1 Maginohara, Mukawa, Hokuto, Yamanashi 408-0302 JAPAN
Tel: +81-551-26-0022, Fax: +81-551-26-0033



Sales@opt-oxide.com

<https://www.opt-oxide.com>

Oxide Yamanashi