

SBN Single Crystal

Strontium-Barium Niobate ($\text{Sr}_x\text{Ba}_{(1-x)}\text{Nb}_2\text{O}_6$) SBN is an excellent optical and photorefractive material due to its excellent photorefractive, electro-optic, nonlinear optic, and dielectric properties. SBN crystal has a very large electro-optic coefficient up to 1400 pm/V. and is potential crystal for new generation E-O devices MTI provides SBN crystal up to 20x20x1.0 mm to support your research. Hope we can work together to bring its cost down with increasing market demand

Typical Properties

Chemical formula	$(\text{Sr}_x\text{Ba}_{(1-x)}\text{Nb}_2\text{O}_6)$ 0.75>x>0.60
Crystal structure	Tetragonal (4mm) a = 3.946 Å c = 12.46 Å
Melting point	1500 °C
Density	5.4 g/cm ³
Mohs hardness	5.5
Thermal conductivity	0.006 W/cm*K
EO constants	(r33:460~1400pm/V)
High optical uniformity	(<1x10 ⁻⁴)
Dielectric constant	E11=450 E32=900
Coercive field	(Ef:~0.25 k V/mm)
Curie Temperature	70-80°C
Transmission range	400 – 6000 nm
Absorption coefficient	0.3cm ⁻¹ @ 0.44µm
Piezoelectric Coefficient	D33 = 130 m/V
Refractive index	n _o =2.312 n _e =2.273

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