

Mateck Barium Titanate Crystal, BaTiO3

Category : Ceramic , Oxide , Piezoelectric

Material Notes:

Oxidic single crystals. Two-wave mixing coupling constant. BaTiO3 is a very unique crystal with superior photo-refractive and ferroelectric properties. MaTeck supplies both of substrate grade and photo refractive grade BaTiO3 single crystal with excellent quality and affordable price.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mateck-Barium-Titanate-Crystal-BaTiO3.php

Physical Properties	Metric	English	Comments
Density	6.02 g/cc	0.217 lb/in ³	
a Lattice Constant	3.99 Å...	3.99 Å...	
c Lattice Constant	4.04 Å...	4.04 Å...	

Thermal Properties	Metric	English	Comments
Melting Point	1600 Å°C	2910 Å°F	

Optical Properties	Metric	English	Comments
Refractive Index	2.3235	2.3235	ne
	@Wavelength 800 nm	@Wavelength 800 nm	
	2.363	2.363	ne
	@Wavelength 633 nm	@Wavelength 633 nm	
	2.3681	2.3681	no
	@Wavelength 800 nm	@Wavelength 800 nm	
	2.416	2.416	no
	@Wavelength 633 nm	@Wavelength 633 nm	
	2.4247	2.4247	ne
	@Wavelength 515 nm	@Wavelength 515 nm	
	2.4921	2.4921	no
	@Wavelength 515 nm	@Wavelength 515 nm	

Electrical Properties	Metric	English	Comments
Dielectric Constant	60	60	εc, clamped

Electrical Properties	135 Metric	135 English	ε:c, unclamped Comments
	2400	2400	εa, clamped
	3700	3700	εa, unclamped

Descriptive Properties	Value	Comments
Absorption loss (cm ⁻¹)	0.005	λ = 800 nm
	0.268	λ = 633 nm
	3.392	λ = 515 nm
Electro Optic Coefficients pm/V	11.7Å±1.9	rT, 1,3
	112Å±10	rT, 3,3
	1920Å±180	rT, 4,2
Growth Techniques	top seeded solution growth	
Reflectivity of SPPC at 0 deg. Cut (%)	50-70% for 515 nm	
	50-80% for 633 nm	
Structure	tetragonal (4m)	
Transmission Wavelength (Åµm)	0.45-6.30	

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