

# Almaz Optics, Inc.

12 Chadsford Ct. Marlton, NJ 08053, USA

Tel: 856 797-0491, Fax: 856 797-0228

e-mail: [mail@almazoptics.com](mailto:mail@almazoptics.com)

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## BBO CRYSTAL

BBO - Beta-Barium-Borate crystal combines wide transparency range, large nonlinear coupling, wide thermal acceptance bandwidth, high laser damage threshold and good mechanical properties. It is typically used for second harmonic generation (SHG) from UV to about 2.1  $\mu$ m; broadly tunable optical parametric oscillators (OPOs) and amplifiers (OPAs); autocorrelation systems. Maximum available size: 50 mm Dia x 70 mm thick.

### Main Properties

Chemical Formula	b-BaB <sub>2</sub> O <sub>4</sub>
Crystal Symmetry	Hexagonal
Lattice Constants, Å	a=12.532 b= 12.717
Density, g/cm <sup>3</sup> at 293 K	3.84
Transmission Range, m	0.19-3.3
Nonlinear Optical Coefficients, pm/V	
d <sub>11</sub>	2.3
d <sub>31</sub>	0.07d <sub>11</sub>
Hardness (Mohs)	4
Optical Damage Threshold at 532 nm, 15 ns, GW/cm <sup>2</sup>	5.4

### Refractive Index

l, nm	n <sub>o</sub>	n <sub>e</sub>
1064	1.6551	1.5425
532	1.6749	1.5555
334	1.7055	1.5775
266	1.7570	1.6146
213	1.8470	1.6746