

LBO

LBO has many unique characteristics that contribute to its wide use as a nonlinear optical crystal. LBO's high damage threshold makes it the preferred choice for high power applications. However, inadequate AR coatings often lower the damage threshold of the device. **FOREAL SPECTRUM** combines the highest quality material with our excellent in-house coating capability to provide the best LBO crystals available.



LBO Specifications

Wavefront Distortion	$< \lambda/8$ at 633nm
Dimension Tolerance	(W: ± 0.1 mm) x (H: ± 0.1 mm) x (L: ± 0.2 mm/- 0.1mm)
Clear Aperture	$> 80\%$ of central area
Scattering Sites	No visible scattering centers when inspected by a 30 mW green laser
Flatness	$\lambda/8$ at 633nm
Surface Quality	10/5 Scratch/Dig to MIL-O-13830A
Parallelism	< 20 arc seconds
Perpendicularity	15 arc minutes
Angle Tolerance	$\Delta\theta < \pm 0.5^\circ$, $\Delta\phi < \pm 0.5^\circ$
Damage Threshold	5 GW/cm ² for TEM ₀₀ mode, 1.3 ns, 1 Hz laser at 1.064 μ m 1 GW/cm ² for cw, mode-locked laser at 1.064 μ m

Standard Products

PN	Dimension	Application	Coating	Type
LBO1320	3 x 3 x 20 mm ³	SHG at 1064nm	DBAR	I
LBO1316	3 x 3 x 16 mm ³	SHG at 1064nm	DBAR	I
LBO1312	3 x 3 x 12 mm ³	SHG at 1064nm	DBAR	I
LBO1418	4 x 4 x 18 mm ³	SHG at 1064nm	DBAR	I
LBO0320	3 x 3 x 20 mm ³	NCPM	AR	I
LBO2320	3 x 3 x 20 mm ³	THG at 1064nm	AR	II
LBO2316	3 x 3 x 16 mm ³	THG at 1064nm	AR	II
LBO2418	4 x 4 x 18 mm ³	THG at 1064nm	AR	II
LBO2415	4 x 4 x 15 mm ³	THG at 1064nm	AR	II

- Brewster angle cut is also available.
- One-year warranty for all products under proper use.

BBO

BBO has a wide transmission range, high nonlinear efficiency and is widely used for harmonic generation, optical parametric amplifiers, and optical parametric oscillators.

BBO Specifications

Wavefront Distortion	$< \lambda/8$ at 633nm
Dimension Tolerance	$(W \pm 0.1\text{mm}) \times (H \pm 0.1\text{mm}) \times (L + 0.2\text{mm}/- 0.1\text{mm})$
Clear Aperture	$> 90\%$ central area
Flatness	$\lambda/8$ at 633nm
Scratch/Dig Code	10/5 to MIL-O-13830A
Parallelism	< 20 arc seconds
Perpendicularity	5 arc minutes
Angle Tolerance	$\Delta\theta < \pm 0.3^\circ$, $\Delta\phi < \pm 0.3^\circ$

Standard Products

Part No.	Dimension	Application	Coating	Type
BBO1407	4 x 4 x 7 mm ³	S(T)HG at 1064nm	AR coating	I or II
BBO1410	4 x 4 x 10 mm ³	S(T)HG at 1064nm	AR coating	I or II
BBO1847	8 x 4 x 7 mm ³	SHG for Dye Laser	P-Coating	I
BBO1551	5 x 5 x 1 mm ³	S(T)HG at 800nm	P-Coating	I
BBO1550	5 x 5 x 0.1 mm ³	S(T)HG at 800nm	P-Coating	I
BBO1865	8 x 6 x 15 mm ³	OPO	AR/AR coating	I or II

- Brewster angle cut is available.
- Each BBO crystal has a protective dielectric coating that protects the polished surfaces from fogging due to ambient moisture. The protective coating also reduces reflection from the polished surface and improves transmission for all wavelengths that are used.
- Single-band, dual-band and broadband anti-reflection (AR) coatings are available.
- One-year warranty for all products under proper use.

Note:

- BBO has a low susceptibility to the moisture. The user is advised to provide dry conditions for both the use and storage of BBO.
- BBO is relatively soft and therefore precautions should be taken to protect its polished surfaces.
- When angle adjustment is necessary, the small acceptance angle of BBO should be taken into account.