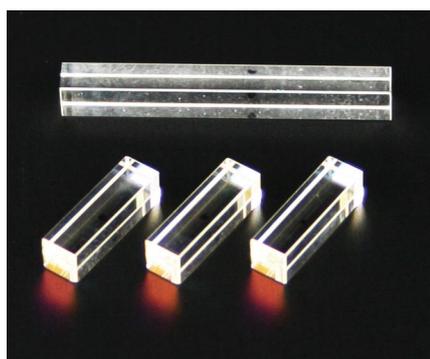


# Nonlinear Crystals

LBO, BBO, BiBO, KTP, etc.  
Available from Stock.

**NEW!**  
**PP-KTP CRYSTALS**

Large quantities of the mostly used NONLINEAR crystals like LBO, BBO, BiBO and KTP are available from stock.



Other nonlinear crystals are available with short delivery times. Customer-specific crystal cuts and coatings are also available.

The nonlinear crystals are synthesized from highly purified materials and are subject to stringent quality control.

Most advanced coating processes like IBS (Ion Beam Sputtering) and IAD (Ion-Assisted Deposition) provide high-damage threshold and extremely low residual reflection (e.g. < 0.05% at 1064 nm) for most demanding intracavity and extracavity applications.

Crystals with apertures ranging from 2x2 mm to 6x6 mm and lengths from

3 mm to 30 mm, cut for frequency doubling or tripling of the mostly used laser wavelengths or parametric generation are available for prompt delivery. Please contact us for your immediate needs.

## NEW: PP-KTP Crystals

Periodically-Poled KTP Crystals with very high efficiency are immediately available for delivery!

Frequency doublers: 976 nm to 488 nm and 1064 nm to 532 nm.

Standard dimensions: Aperture: 1x2.5 mm<sup>2</sup> (HxW), Length: 10 mm, AR-coated

## Nonlinear Crystals - Types Available from Stock

Nonlinear Crystal Type	BBO, $\beta$ -BaB <sub>2</sub> O <sub>4</sub>	KTP, KTiOPO <sub>3</sub>	LBO, LiB <sub>3</sub> O <sub>5</sub>	BiBO, BiB <sub>3</sub> O <sub>6</sub>	CLBO, CsLiB <sub>6</sub> O <sub>10</sub>
Transparency Range [nm]	190 - 3500	350 - 4500	160 - 2600	286 - 2500	180 - 2750
SHG Phase Matchable Range [nm]	409.6 - 3500 (Type I) 525 - 3500 (Type II)	994 - 2000 (Type II)	551 - 2600 (Type I) 790 - 2150 (Type II)	574 - 2480	473 - 2750 (Type I) 636 - 2750 (Type II)
Effective Nonlinear Coefficients $d_{\text{eff}}$ SHG 1064 nm [pm/V]	2.14 (Type I) 1.47 (Type II)	4.03 (Type II)	0.82 (Type I)	3.34	0.9 (Type I, 4HG) 1.19 (Type I, 5HG) 0.95 (Type II)
Absorption Coefficients [%/cm]	< 0.1 @ 1064 nm, < 1 @ 532 nm	< 0.1 @ 1064 nm, < 1 @ 532 nm	< 0.1 @ 1064 nm, < 0.3 @ 532 nm	< 0.1 @ 1064 nm	< 0.03 @ 1064 nm, < 0.1 @ 532 nm
Angle Acceptance SHG 1064 nm [mrad/cm]	0.8 (Type I) 1.27 (Type II)	14.2 ( $\varphi$ ) 55.3 ( $\theta$ )	6.54 (Type I) 15.27 (Type II)	1.03 (ee-o)	0.45 (Type I, 4HG) 0.42 (Type I, 5HG) 1.90 (Type II)
Walk-Off Angle SHG 1064 nm [mrad]	55.6 (Type I) 69.4 (Type II)	4.87 (Type II)	6.7 (Type I) 6.4 (Type II)	24.5 (Type I)	7.85 (Type I, 4HG) 7.33 (Type I, 5HG) 33.1 (Type II)
Temperature Acceptance SHG 1064 nm [°C/cm]	70	24	4.7 (Type I) 7.5 (Type II)	2.17	8.30 (Type I, 4HG) 4.60 (Type I, 5HG) 43.1 (Type II)
Spectral Acceptance [nm/cm]	1.1	0.56	1.0 (Type I) 1.3 (Type II)	0.96 (ee-o)	0.13 (Type I, 4HG) 0.16 (Type I, 5HG) 5.60 (Type II)

**Note:** ALPHALAS GmbH makes every effort to provide accurate and up-to-date information in this datasheet. However, parts of this information are provided by external sources. Therefore, ALPHALAS GmbH takes no responsibility for the accuracy and correctness of the information included in this datasheet.

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