

Laser Crystals

Nd:YAG, Yb:YAG, Nd:YVO₄, Nd:GdVO₄, Nd:YLF, Nd:KGW, etc.
Available from Stock.

Because ALPHALAS produces a large variety of solid-state lasers, most popular types of laser crystals with various dimensions are available from stock. These include Nd:YAG, Yb:YAG, Nd:YVO₄, Nd:GdVO₄, Nd:YLF and Nd:KGW.

The end faces are available in normal

and Brewster-cut configurations. We can also deliver other types of laser crystals like Ti:Sapphire, Nd:YAP, Cr and Ce doped LiSAF, LiSGaF, LiCAF as well as diffusion-bonded crystals.

Laser crystals with customer-specific dimensions are available with short delivery times.

The laser crystals from ALPHALAS meet the most stringent requirements with regard to polishing, wave-front distortion and high damage threshold of the dielectric coatings.

Please do not hesitate to contact us.

Laser Crystals • Types Available from Stock

Laser Crystal Type	Nd:YVO ₄	Nd:GdVO ₄	Nd:YAG	Yb:YAG	Nd:YLF	Nd:KGW
Lasng Wavelength [nm]	914, 1064, 1342	912.6, 1063.1, 1341.3	946, 1064, 1319	1030, 1050	1047 (π,e), 1053 (σ,o), 1321 (π,e), 1313 (σ,o)	911, 1067.2, 1351
Emission Cross-Section [10⁻¹⁹ cm²]	25 @ 1064 nm	7.6 @ 1063.1 nm	2.8 @ 1064 nm	0.2 @ 1030 nm	1.8 @ 1047 nm	4.3 @ 1067.2 nm
Fluorescence Lifetime [μs] @ Doping 1%	90	95	230	1200	485	110 (3% doping)
Gain Bandwidth [nm]	0.96 @ 1064 nm	0.8 @ 1064 nm	0.6 @ 1064 nm	9.0 @ 1030 nm	1.3 (π,e), 1.4 (σ,o)	2.73
Pump Wavelength [nm]	808.5	808.4	807.5	940, 970	793, 798, 804	811
Absorption Coefficient [cm⁻¹] @ doping 1%	31.4 @ 810 nm (π,e)	74.0 @ 810 nm (π,e)	7.1 @ 810 nm	1 @ 1 % doping, 10 @ 10% doping	2.3 @ 793 nm, 3.0 @ 798 nm	4.5
Absorption Line Width [nm]	4 (π,e)	3 (π,e)	1	8	0.75 (π,e), 0.88 (σ,o)	12
Polarized Emission	π,e polarization, c	π,e polarization, c	no	no	polarized	polarized
Intrinsic Loss @ 1064 nm [cm⁻¹]	0.02	0.02	< 0.003	< 0.003	0.02	0.02
Thermo-Optic Coefficients dn/dt [10⁻⁶ K⁻¹]	3.0 (π,e), 8.5 (σ,o)	4.7 (π,e)	7.9	8.9	- 4.3 (π,e), - 2.0 (σ,o)	- 0.8 (p[gg]p), - 5.5 (p[mm]p)
Thermal Conductivity [W/m²K]	c : 5.23, ⊥ c : 5.10	⊥ c : 11.7	14	14	6.3	2.8 [100], 2.2 [010], 3.5 [001]
Thermal Expansion Coefficients [10⁻⁶ K⁻¹]	α _a = 4.43, α _c = 11.37	α _a = 1.5, α _c = 7.3	7.8 [111]	7.8 [111]	8.3 c, 13.3 a	4.0 [100], 3.5 [010], 8.5 [001]

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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