# Laser Crystal Manufactuer in China

Offer Yb:YAG Laser Crystal, Laser Crystal, NLO Crystal, Birefringent Crystal, Window Crystal

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# Video

**Diffusion Bonded Crystal** 

#### **Laser Crystal**

Nd:YAG Laser Crystal

Cr4+:YAG Laser Crystal Er:YAG Laser Crystal Nd:Ce:YAG Laser Crystal

Yb:YAG Laser Crystal

Nd:YLF Laser Crystal Nd:YVO<sub>4</sub> Laser Crystal

## **Optical Windows**

**BK7 Standard Windows** 

**BK7** High Precision Windows

Fused Silica Standard Windows

Fused Silica High Precision Windows

Coating Film

BK7 Plano-Convex Cylindrical Lens

Lens

BK7 Plano-Convex Lens

Fused Silica Plano-Convex Lens

BK7 Double Convex Lens

Fused Silica Double Convex

Lens

BK7 Plano-Concave Lenses Fused Silica Plano-Concave

Lens

**BK7** Double Concave Lenses

Fused Silica Double Concave Lens

Coating Film

BK7 Plano-Convex Cylindrical

Lens

# **Optical Mirror**

**BK7 Standard Substrate** 

BK7 High Precision Substrate

Fused Silica Standard Substrate

Fused Silica High Precision Substrate

Beam Splitter Plate

Nd: YAG Laser Beam Combiner

Scanning Mirror

Coating Film

BK7 Plano-Convex Cylindrical



# Yb:YAG Laser Crystal Yb:YAG

Yb:YAG crystal is one of the most promising laser-active materials and more suitable for diode-pumping than the traditional Nd-doped systems. It can be pumped at 0.94 µm and generate 1.03 µm laser output. Yb:YAG crystal at 1030nm is a good substitute for a Nd:YAG crystal at 1064nm and its second harmonic at 515nm may replace Ar-ion laser(with a large volume), which emits at 514nm. Yb:YAG crystal is expected to replace Nd:YAG crystal for high power diode-pumped lasers and other potential applications.

+ Consulting Products Information

### Advantages:

- 1. High optical quality
- 2. Very high slope efficiency
- 3. Very low fractional heating, less than 11%
- 4. No excited-state absorption or up-conversion
- 5. Broad absorption bands, about 8nm@940nm
- 6. High thermal conductivity and large mechanical strength
- 7. Conveniently pumped by reliable InGaAs diodes at 940nm(or 970nm)

Format: Rods, Discs and Slabs

Rod sizes: Diameter: 2- 10mm, Length: 30 - 150mm Disc sizes: Diameter: 2 - 15mm, Thickness: >= 1mm

Slab sizes: Length: 60 - 150mm, Width: 6 - 15mm, Thickness:

Ends: Plane, Brewster, Concave and Convex

Sides: Ground, Polished and Grooved

## **Specifications**

Yb:0.3~15at% Dopant concentration Orientation [100]or[111]within 5° Wavefront Distortion ≤0.125λ/inch

Extinction >28dB

Rod Sizes Diameter: 2~20mm, length: 5~150mm Upon request of customer

**Dimensional Tolerances** Diameter: +0.00/-0.05mm, length:±0.5mm Barrel Finish Ground Finish with 400# grit or polished

≤10"

≤5'

Parallelism Perpendicularity

Flatness λ/10@632.8nm

10-5(MIL Surface Quality Send Message Chamfer

AR Coating Reflectivity ≤0.25%(@1030nm) Damage Threshold 500MW/cm<sup>2</sup>10ns 1Hz at 1064nm

### Main Properties of Yb:YAG crystal:

Yb3+:Y3AI5O12 Chemical Formula 1030nm Laser Wavelength Fluorescence Lifetime 1.2 ms

Index of Refraction 1.82 Loss Coefficient 0.003 cm-1 Crystal Structure Cubic Lattice Parameters 12.01 Å 1970°C Melting Point

Moh Hardness 4.56±0.04g/cm3 Density Specific Heat (0-20) 0.59J/g.cm3

Thermal Expansion Coefficient [111]Direction:7.8×10-6/°C(0~250°C) Thermal Conductivity 14W/m/K(@20°C), 10.5W/m/K(@100°C)

8.5

NLO Crystal

LBO Crystal

BBO Crystal

KTP Crystal

KDP, KD\*P Crystal

LiNbO<sub>3</sub> / LN Crystal

## Window Crystal

YAG Crystal
Sapphire Crystal
CaF<sub>2</sub> Crystal
MgF<sub>2</sub> Crystal
BaF<sub>2</sub> Crystal

LiF Crystal

Laser Rod Repolishing

**Laser Safety Glasses** 

**Optical Filter** 

Medical IPL Filter
Interference Filter

**Light Pipe Homogenizing** 

**Laser Beauty Supplies** 

Laser Handle

Laser Bonding Crystal





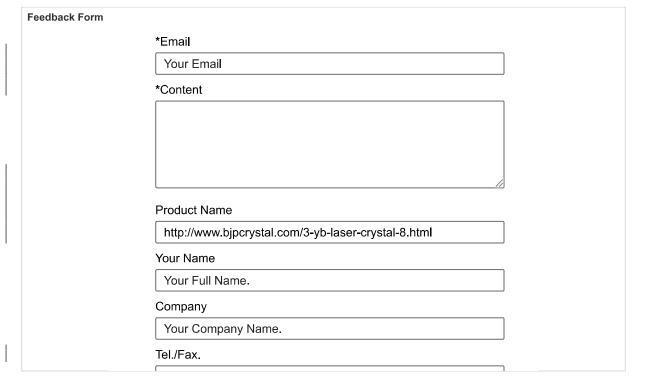






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### **Related Products**



### **Nd:YAG Laser Crystal**

Nd:YAG crystal is the most early and mature laser material adopted by R&D, medical, industrial and military customers. It is the ubiquitous presence for near-infrared solid-state lasers and their frequency-doubler, tripler, and higher order multiplier...

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