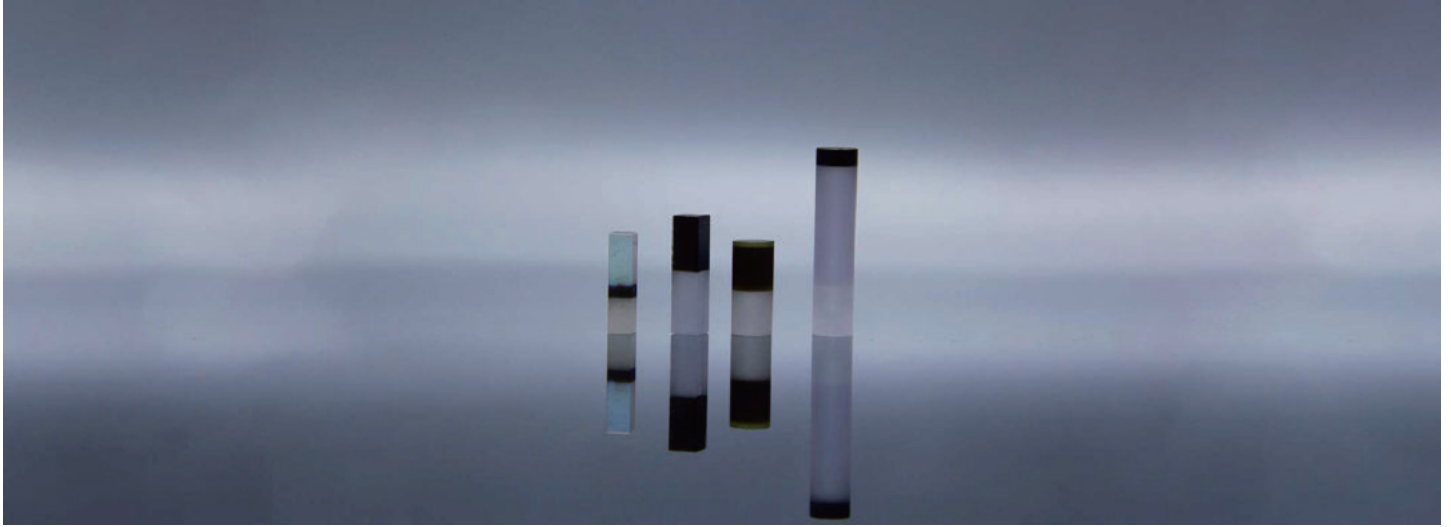


Yb:YAG+Sapphire



DESCRIPTION

Yb:YAG+Sapphire bonding crystal is a bonding crystal formed by bonding sapphire at one end of Yb:YAG, which can effectively improve the comprehensive performance of Yb:YAG laser.

The thermal conductivity of Yb:YAG is 0.14 w/cm/ °k@ 25°C, and the thermal conductivity of sapphire crystal is 25.12w/m/K (@100°C). Yb:YAG+Sapphire bonded crystal is formed by bonding at both ends, which can effectively improve the thermal effect of Yb:YAG crystal, reduce the thermal lens effect formed during laser pumping, high slope efficiency, low quantum defects, simple energy level structure, etc. Improve the beam quality of the laser, improve the 1030nm laser output efficiency, improve the stability of the laser output capacity, and improve the service life of the laser.

CRYLINK uses surface activation bonding technology, which is a bonding technology at low or normal temperature. The typical features are surface cleaning and surface activation. Before bonding, the bombardment of fast atoms or ion beams on the bonding surface can effectively increase the bonding strength and achieve high-quality bonding between inorganic materials, metals and semiconductor materials. Compared with the high-temperature thermal bonding method, the surface activation bonding technology has higher bonding force interface, better optical absorption loss and surface shape change control, while the impurities on the thermal diffusion bonding surface cannot be removed and are bonded on the bonding surface. Surface activated bonding technology has the advantages of removing various polishing residual components, removing organic pollutants, removing surface oxide layer, breaking chemical bonds of materials, and improving activation energy.

Yb:YAG+Sapphire bonding crystal produced has high bonding strength, small bonding surface absorption loss (generally less than 20ppm) and small change of bonding surface shape (bonding surface shape $< \lambda/8$). The shape of the bonded crystal can be rod, plate, waveguide or sandwich. Various types of coatings can be provided at both ends of the bonded crystal, such as two end antireflection films ar/ AR@1030nm, etc. Yb:YAG+Sapphire bonded crystals are widely used in holography, interference, optical storage and other fields. They can also be used in high-efficiency and high-power diode pumped solid-state lasers.



Yb:YAG+Sapphire

FEATURES

- It can effectively improve the thermal effect of yb:yag crystal
- Reduce the thermal lens effect formed during laser pumping
- High slope efficiency, low quantum defects and simple energy level structure

APPLICATIONS

- Humanization in the field of oral treatment
- Holographic, interference, optical storage and other fields
- Laser cutting and welding
- Lidar and optical refrigeration

PRODUCT PARAMETERS

Yb:YAG+sapphire		
Materials	Yb:YAG	Sapphire
Concentrations	1%, 2%, 2.5%, 5%, 7.5%, 10%	/
Structure	Rods/Slabs/Sandwich/Waveguide/	
End-face Configuration	Flat/Convex/Wedge	
Side Configuration	Polish/Fine Ground	
Coating available	AR@1030nm	AR@1030nm
	others	others

