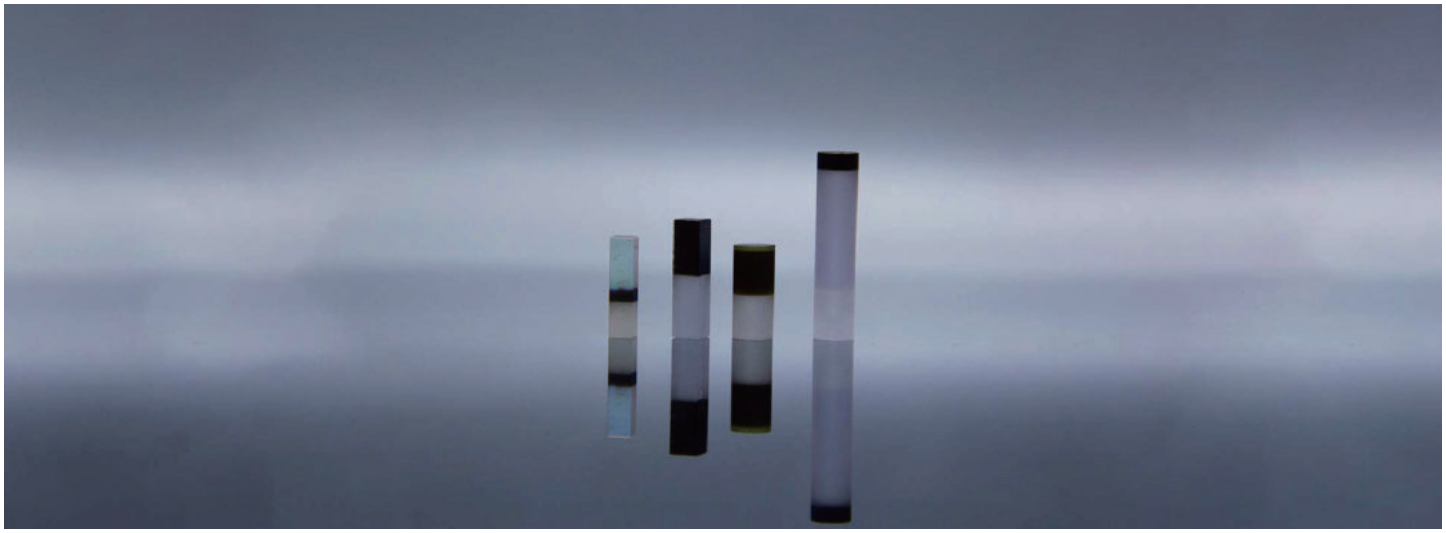
Yb:YAG+Diamond



DESCRIPTION

Yb:YAG+Diamond bonding crystal is a bonding crystal formed by bonding diamond 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 diamond crystal is 1.465w/m/K (@100°C). Yb:YAG+Diamond 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, have high slope efficiency, and improve excellent power, enhanced coherence and frequency conversion ability. 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.

The Yb:YAG+Diamond 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 <lamda/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+-Diamond 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+Diamond

FEATURES

- Effectively improve the thermal effect of yb:yag crystal
- Reduce the thermal lens effect formed during laser pumping
- High slope efficiency to improve excellent power
- Increase the coherence and frequency conversion capability

APPLICATIONS

- Humanization in the field of oral treatment
- Holographic, interference, optical storage and other fields
- Laser cutting and welding
- Lidar and optical refrigeration
- Ultrashort pulse research
- Material micromachining
- Multiphoton microscope

PRODUCT PARAMETERS

Yb:YAG+Diamond		
Materials	Nd,Ce:YAG	Diamond
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

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