



CRYSTALS

- Laser crystals
- NLO Crystals
- Passive Q-switch
- Birefringent Crystals
- Magneto-optical Crystals
- Windows

OPTICS

- Telecom Optics
- Instrumental Optics

COATING SERVICE

PROCESSING SERVICE

Yb:YAG Crystal
(Ytterbium Doped Yttrium Aluminum Garnet)

It is more suitable for diode-pumping than the traditional Nd-doped systems. It can be pumped at 0.94 μm laser output. Compared with the commonly used Nd:YAG crystal, Yb:YAG crystal has a much larger absorption bandwidth to reduce thermal management requirements for diode lasers, a longer upper-state lifetime, three to four times lower thermal loading per unit pump power. Yb:YAG crystal is expected to replace Nd:YAG crystal for high power diode-pumped lasers and other potential applications.

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

HGO offer Yb:YAG specifications

Doping(atm%):	1.0% ~ 35%
Orientation:	<111> or <100> crystalline direction
Wavefront Distortion:	$\lambda/10$ per inch @ 632.8 nm
Dimension Tolerances:	rods with diameter: +0.0/-0.05 mm , Length: ± 0.1 mm
Surface Quality:	10/5 Scratch/Dig MIL-O-1380A
Parallelism:	< 10"
Perpendicularity:	< 5'
Clear Aperture:	> 90%
Surface Flatness:	< $\lambda/10$ @ 632.8 nm
Chamfer:	< 0.1 mm @ 45 $^{\circ}$
Barrel Finish:	50-80 micro-inch (RMS) ,
Size	Upon customer request
Coating	AR/HR/PR coating upon customer' s request
Damage Threshold	750MW/CM 2 at 1064nm, TEM00, 10ns, 10Hz
Quality Warranty Period	One year under proper use

Slabs, thread rod, Er:YAG, Nd:YAG, Cr:YAG,Ce:YAG, Tm:YAG,Ho:YAG and other ion doped YAG crystals are also available upon request.

Yb:YAG crystals with diffusion bonded undoped YAG endcaps or Q-switch are also available from HG Optronics.,Inc. Please [visit here](#).

