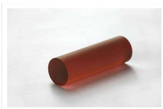

Er:YAG

Er:YAG combine various output wavelength with the superior thermal and optical properties of YAG. It' s an excellent laser crystal which lasers at 2.94um highly surface cutting laser. It is a well known material for medical applications.

ADVANTAGES

- Very high slope efficiency
- Operates well at room temperature
- Operate in a relatively eye-safe wavelength range

Laser Rods

- Flat/flat
- Parallel/ anti-parallel wedged
- Brewster angle
- Concave/convex radii
- Cylinder grooved

Specifications

Material	Er:YAG
Dopant concentration	Er: ~50 at%
Orientation	<111>
Dimensions	Diameter:2mm-50mm, Length:5mm-180mm(Upon customer' s request)
Diameter tolerance	+0/-0.04mm
Length tolerance	+0.5/-0mm
Chamfer	0.1mm@45°
Extinction Ratio	>25dB(depends on actual size)
Flatness	<λ/10@632.8nm
Barrel Finish	Ground Finish 400#Grit

Chips	<0.1mm
Perpendicularity	<5 arc minutes
Parallelism	<10 arc seconds
Wavefront Distortion	λ/8 per inch @632.8nm
Damage Threshold	>500MW/cm2
Anti-Reflection coating	R<0.20%@2940nm per surface

Properties

Chemical Formula	Er3+:Y3Al5O12
Laser Transition	4I11/2 to 4I13/2
Photon Energy	6.75×10-20J@2940nm
Laser Wavelength	2940nm
Emission Cross Section	3×10-20 cm2
Index of Refraction	1.79@2940nm
Pump Bands	600~800nm
Moh Hardness	8.25
Melting Point	1965℃
Thermal Conductivity	11.2W/m/K
Thermal shock Resistance	790W/m

