

Er:YAG

Introduction

Er:YAG is an excellent laser crystal which lases at 2940 nm. This wavelength is the most readily absorbed into water and hydroxylapatite of all existing wavelengths and is considered a highly surface cutting laser. It has wide applications in medical applications, such as dental (hard tissues), orthopedics, etc.

Advantages of Er:YAG Crystal

- High slope efficiency
- Operate well at room temperature
- Operate in a relatively eye-safe wavelength range

Material and Specifications

Dopant Concentration	Er: ~50 at%
Wavefront Distortion	$\leq 0.125\lambda/\text{inch}(@1064\text{nm})$
Extinction Ratio	≥ 25 dB
Rod Sizes	Diameter: 3~6mm, Length: 50~120 mm Upon request of customer
Dimensional Tolerances	Diameter: +0.000"/-0.002", Length: ± 0.02 "
Barrel Finish	Ground Finish: 400# Grit
Parallelism	≤ 10 "
Perpendicularity	$\leq 5'$
Flatness	$\lambda/10$
Surface Quality	10-5(MIL-PRF-13830B)
Chamfer	$0.006" \pm 0.002"$ at $45^\circ \pm 5^\circ$
AR Coating Reflectivity	$\leq 0.25\%$ (@2940nm)

Optical and Spectral Properties of Er:YAG Crystal

Laser Transition	$^4I_{11/2}$ to $^4I_{13/2}$
Laser Wavelength	2940nm
Photon Energy	6.75×10^{-20} J(@2940nm)
Emission Cross Section	3×10^{-20} cm ²
Index of Refraction	1.79 @2940nm
Pump Bands	600~800 nm

公司简介 INTRODUCTION



CASTECH INC.

(CASTECH) was founded by Fujian Institute of Research on the Structure of Matter, Chinese Academy of Science in 1988. Thanks to long term interactive partnership with the leaders in laser system manufacturing industry and ongoing efforts of our employees, we have established the largest mass production lines in the world for LBO, BBO, Nd:YVO₄ and TGG crystals, and implemented a complete quality control system for our products.

CASTECH is now a worldwide leading supplier of nonlinear optical crystals, laser crystals, precision optics, and a variety of laser components. In CASTECH, there are Flux/Czochralski/Water Solution/Bridgman Crystal Growth production lines, Crystal Orientation and Dicing workshop, Optical Polishing workshop and Optical Coating workshop with IBS, IAD, MS and EB coating technique. Our commitments are backed by our huge manufacturing capacity.

CASTECH's quality system is IATF 16949:2016 and ISO 9001:2015 certified. We have established a complete system for outgoing parts inspection. Our optical testing equipments include Zygo Interferometers, Agilent Cary 7000, Perkin-Elmer Lambda 950, Nikon Microscope, Photo-Thermal Common-Path Interferometers, Zygo Newview 8300, Taylor Hobson LupoSan 260, Extinction Ratio Measurement and Ellipsometers. These equipments along with many others, ensure that we comply with all specifications for our products.

Today, over 60% of CASTECH's products are exported to USA, Japan, Europe and other Asia Market. We have established a global sales network. We have set up our agencies and distributors in the main industrial countries and districts.

Our mission is to deliver the best products and solutions to our customers in photonics industry, and help them to realize their full potential in business. Here at CASTECH, we value comity, integrity, honesty, and innovation.