

TGG

Key Material for Optical Isolator in Fiber Laser

Features

✓ Large Size Boule

Diameter: up to 2.5"

Length: up to 80 mm

✓ Extinction Ratio

Typical: >35 dB

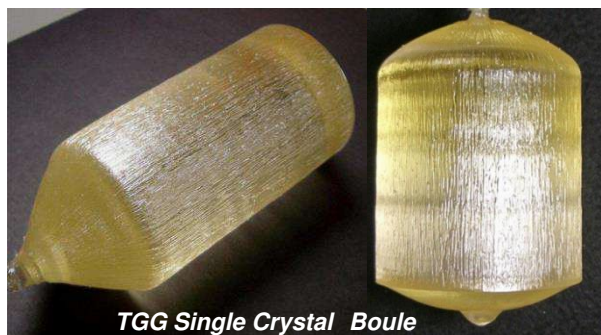
High Grade: >40 dB

✓ Verdet Constant

40 rad/T/m at 1064 nm

✓ Refractive Index

1.95 at 1064 nm

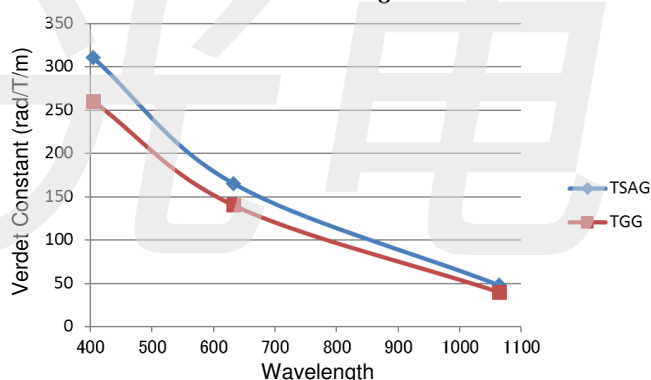


TGG Single Crystal Boule



TGG Single Crystal Elements

Verdet Constant vs. Wavelength at 400-1064 nm

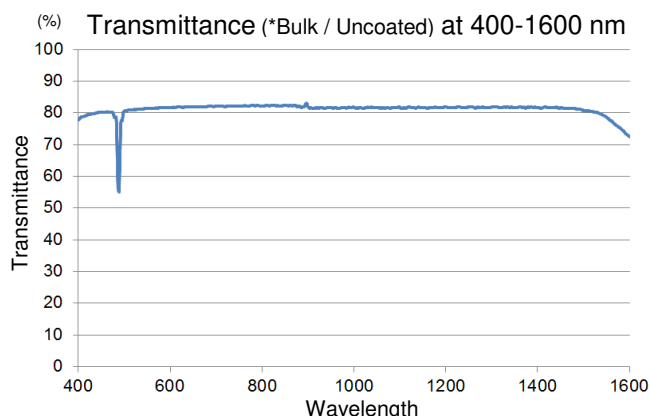


Properties

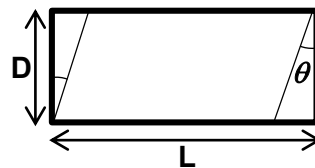
Crystal Structure: Cubic

Density: 7.2 g/cm³

Lattice Constant: 1.23 nm



Typical Dimensions of Element



Diameter	Length	Surface Angle	Coating
Up to 10 mm	Up to 30 mm	0- 0.5 deg.	1 μm

Contact for Custom Request

OXIDE



TSAG

Key Isolator Material for Next Generation Fiber Laser

Features

- ✓ High Power Compliant
Low Thermally-Induced Birefringence
- ✓ Large Verdet Constant
- ✓ Low Absorption



Advantages of TSAG vs. TGG

The Best Suited for High Power Use

Verdet Constant*

20%

Higher than TGG

Absorption**

30%

Less than TGG

Make Your Isolator Small

* 48 rad/T/m at 1064 nm (reference: in-house measurement)

** 3000 ppm/cm at 1064 nm (reference: measured with Model PCI-3 (Stanford Photo-Thermal Solutions))

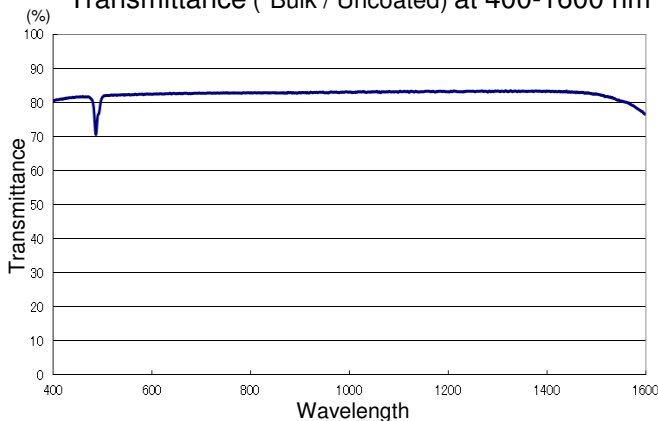
Properties

Crystal Structure: Cubic

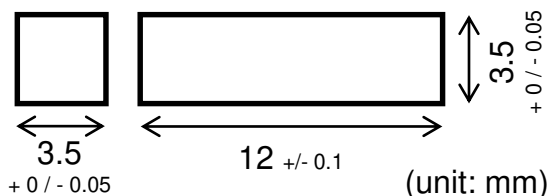
Density: 5.91 g/cm³

Lattice Constant: 1.23 nm

Transmittance (*Bulk / Uncoated) at 400-1600 nm



Standard Element



AR Coat: R<0.3% at 1064 nm
Parallelism S1//S2: <3 arcmin.
Extinction Ratio: >30 dB

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Oxide Corporation



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Contents are things of 25-Aug-2015.

NEW

YIG

Key Isolator Material for Mid-IR

Features

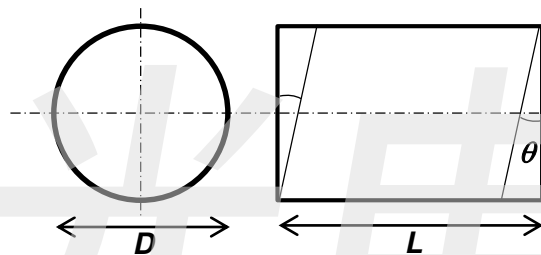
- ✓ High Purity
- ✓ Maximum Length: 80 mm
- ✓ Maximum Diameter: 5 mm



Advantages of FZ-Grown YIG

	FZ	Flux	Epi
Element Size	✓✓	✓	×
Purity	✓✓	×	✓
Volume Production	✓✓	×	✓
Orientation Control	✓	×	✓
Pb-free	✓✓	×	×

Typical Dimensions of Element



Diameter D (mm)	Length L (mm)	Surface Angle θ (deg.)	Coating wavelength λ (μm)
2.0 - 5.0	1.0 - 6.0	0 - 0.5	2.0 - 4.5

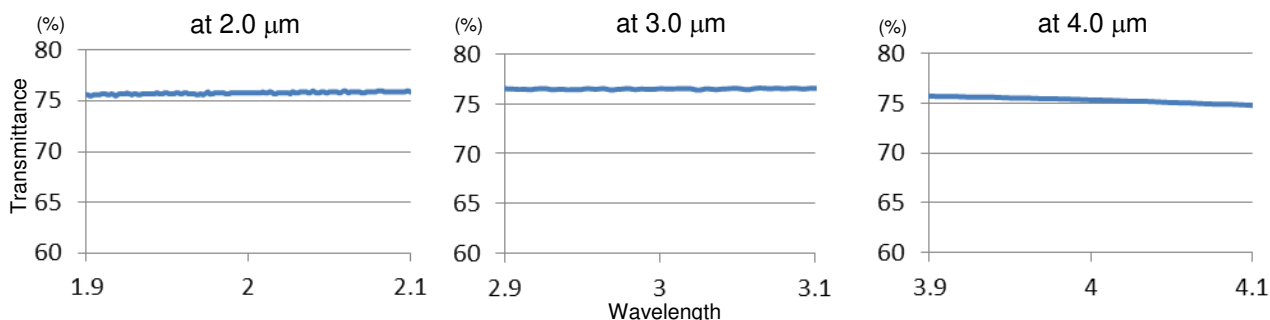
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Properties

Crystal Structure: Cubic

Density: 5.17 g/cm³, Lattice Constant: 1.24 nm

Transmittance (*Bulk / Uncoated): >75% at 2-4 μm , >70% at 4.5 μm

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