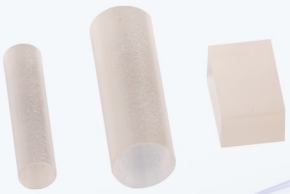
PRODUCT INTRODUCTION

TGG Crystal



TGG crystal of YOSC, which is made by the advanced and proven Czochralski (CZ) process, has excellent features like large magneto-optical figure of merit, low light absorption, good thermal conductivity and high laser damage threshold. It is the best magneto-optical material for producing faraday rotator and isolator. It is suitable for wavelengths of 400nm-1100nm (excluding 470nm- 500nm).

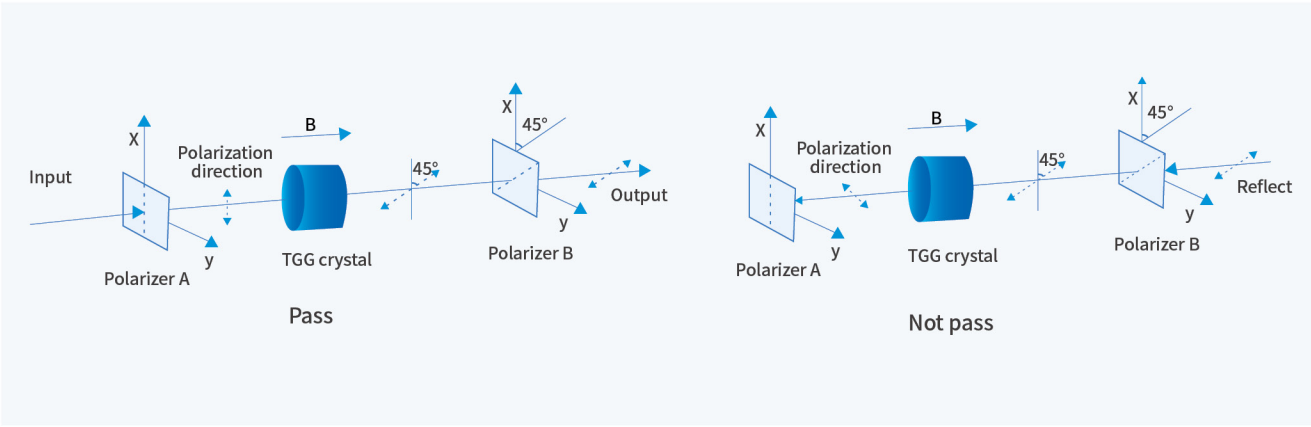
Features

- High Verdet constant
- Large extinction ratio
- High laser damage threshold
- Good thermal conductivity

Applications

- Isolator
- Faraday rotator

Structure



Parameters

Indicators

Basic properties	
Chemical formula	$Tb_3Ga_5O_{12}$
Crystal structure	Cubic Garnet
Lattice constant (Å)	12.355
Crystal orientation	<111>
Density (g/cm³)	7.13
Mohs' hardness	8
Magneto-optic properties	
Refractive index(nm)	1.95@1064
Verdet constant (Rad/m.T)(nm)	35@1064
Extinction ratio (dB)	>35
Laser damage threshold (W/cm²)	>1G
Coating (%@1064±30nm)	AR:R<0.2
Transmission loss (%/cm)	<0.1
Machining quality	
Orientation accuracy (′)	±15
Diameter tolerance (mm)	+0.00/-0.05
Length tolerance (mm)	±0.1
Flatness(nm)	<λ/8@633
Parallelism (″)	<30
Verticality (′)	<10
Scratch-dig	10/5
Chipping (mm)	<0.1

*Dimensions and indicators can be custom-made as required by the customer within a certain range