TiO2 Rutile Titanium dioxid：

TiO2 rutile optical grade titanium dioxide single crystal has high birefringence and refractive index, making it a good material for spectral prisms and polarization devices (such as optical isolators and beam splitters). Compared with YVO4, TiO2 crystal has better physical and chemical stability.

Materials properties:

Crystal structure	Tetragonal
Growing directions	Flame method
Lattice constant	a=4.5936Å c=2.9582 Å
Density	4.26（g/cm^3）
Hardness	7（mohs）
Heat capacity	0.17（25℃）
Transmission	0.5～4.5um
Refractive index no	no=2.47 ne=2.73 at λ=1.3um
Dielectric constant	~180 // <001>; ~90 ⊥<001>
thermo-optical coeffecient	dη/dT：a：-0.72×10^6/k c：-0.42×10^{-6}/k
Linear expansion coefficient	a：7.14×10^{6}c：9.19×10^6
Crystal bar	Φ25mm×35mm
Size	5×5×10mm、5×10×10mm、10×10×0.5mm
Optical or polished finished product	Dimension tolerance: ± 0.05mm, crystal direction tolerance: ± 0.1
Polishing	Single or double-sided
Package	100 clean bag, 1000 ultra-clean room