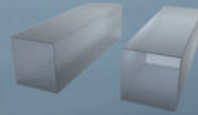


# Yb:YLF



## DESCRIPTION

CRYLINK's Yb:YLF crystal products are laser crystal products with excellent comprehensive performance. It is widely used in laser cooling, low temperature detection and diode pumping. The product is characterized by low quantum defects, high thermal conductivity and wide tuning range. Can be used in mode-locked lasers, subpicosecond pulse lasers, diode-pumped chirped pulse regeneration amplifier, thin disk laser products.

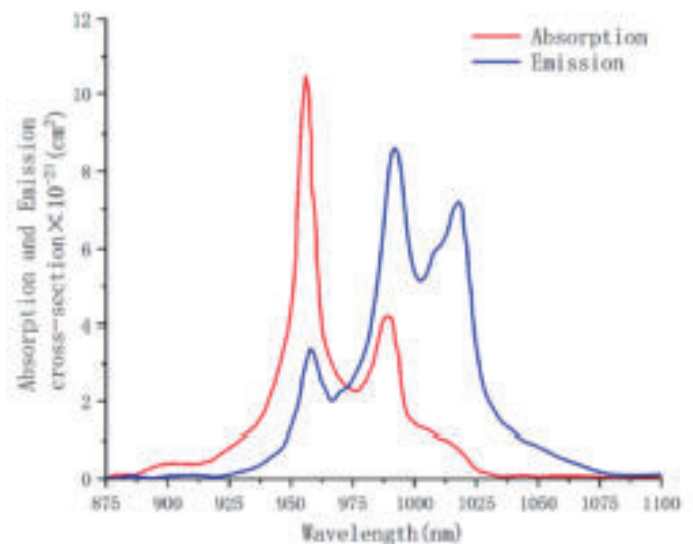
## APPLICATIONS

- Laser cooling
- Thin disc laser
- Low temperature detection
- Diode pump-type locking laser
- Diode pumping pulse regeneration amplifier
- High average power subtype second pulse laser

## FEATURES

- Low thermal load
- Wide tuning range
- High average power
- Low quantum defects
- High thermal conductivity
- A wide range of tunability
- Wide laser emission spectrum
- Absorption spectra are well matched to the emission wavelength of the InGaAs laser diode
- Simple electronic structures exclude excitation state absorption and various harmful annihilation processes

## SPECTRA



# Yb:YLF

## PARAMETERS

### STANDARD

Orientation	a-cut
Clear Aperture	>90%
Face Dimension Tolerance	+0/-0.1mm
Length Tolerance	±0.1mm
Parallelism Error	<10 arcsec
Squareness Error	<10 arcmin
Protective Groove	<0,1 mm @45°
Surface Finish	10-5 S-D
Surface Roughness	<λ/10@6328 nm
Coating	AR(R<0.5%) @960 nm +AR(R<0.15%) @1000~1060 nm
Laser Damage Threshold	>10 J/cm <sup>2</sup> @1030 nm, 10 ns

### SPECTRAL AND THERMOMECHANICAL PROPERTIES

Absorption Peak Wavelength	960 nm
Peak Absorption Cross Section	10.5×10 <sup>-21</sup> cm <sup>2</sup>
Peak Absorption Bandwidth	~10 nm
Laser Wavelength	1017 nm
<sup>2</sup> F <sub>5/2</sub> Energy Level Lifetime	2.1ms
Emission Cross Section@1053 nm	4.1×10 <sup>-21</sup> cm <sup>2</sup>
Refractive Index@1040 nm	~1.4
Crystal Structure	Tetragonal System
Density	3.95g/cm <sup>3</sup>
Mohs Hardness	5
Thermal Conductivity	6 Wm <sup>-1</sup> K-1
dn/dT	-4.6×10 <sup>-6</sup> (// c)k <sup>-1</sup>
	-6.6×10 <sup>-6</sup> (// a)k <sup>-1</sup>
Thermal Expansion Coefficient	8×10 <sup>-6</sup> (// c)k <sup>-1</sup>
	13×10 <sup>-6</sup> (// a)k <sup>-1</sup>
Typical Doping Level	5%-20%



# Yb:YLF

