

Ce:YAG



DESCRIPTION

Ce:YAG single crystal has obvious absorption peak at 340nm and 460nm, which is the characteristic absorption peak of Ce^{3+} . At present, the emission wavelength of InGaN blue chip used in commercial white LED is 460 nm. The wide absorption band of Ce:YAG single crystal with a central wavelength of 460 nm indicates that it can effectively absorb blue light emitted from blue chip., The blue light emitted by the chip and the yellow light emitted by the Ce:YAG chip are superimposed to form white light. Moreover, Ce:YAG single crystal has good thermal stability, which is particularly important for the manufacture of high-power white LED devices.. With the increase of the thickness of Ce:YAG wafer, the light efficiency of white LED devices packaged with blue chip and Ce:YAG wafer increases gradually, and the color temperature and color rendering index decreases gradually. As the thickness of the wafer increases, the content of Ce^{3+} increases relatively. The more blue light is absorbed and the more yellow light is emitted, which results in the wafer's luminescence changing from blue to white to yellow.

FEATURES

- Good energy resolution
- Non-hygroscopicity
- Fast decay time
- High mechanical resistance
- High chemical resistance

APPLICATIONS

- CT,PET,SPECT
- β and X-ray counting
- Imaging screens
- White LED lighting



Ce:YAG

PARAMETERS

MATERIAL PROPERTIES

Property	Value
Materials	Ce:Y ₃ Al ₅ O ₁₂
Density (g/cm ³)	4.55
Melting point (°C)	1970
Hardness (Mohs)	8.5
Hygroscopicity	No
Cleavage plane	No
Solubility (g/100gH ₂ O)	N/A
Thermal expansion (C ⁻¹)	8.5*10 ⁻⁶

SCINTILLATOR PROPERTIES

Property	Value
Wavelength(Max. emission) (nm)	550
Wavelength range (nm)	500-700
Decay time (ns)	70
Light yield (photons/keV)	35
Refractive index(Max. Emission)	1.82
Radiation length (cm)	3.5
Transmittance (%)	TBA
Optical transmittance (um)	TBA
Reflection loss/surface (%)	TBA
Energy resolution (%)	7.5
Photoelectron yield [% of NaI(Tl)](for γ-rays)	35
Neutron capture cross-section (barns)	TBA

SPECTRA

