

Basic Information

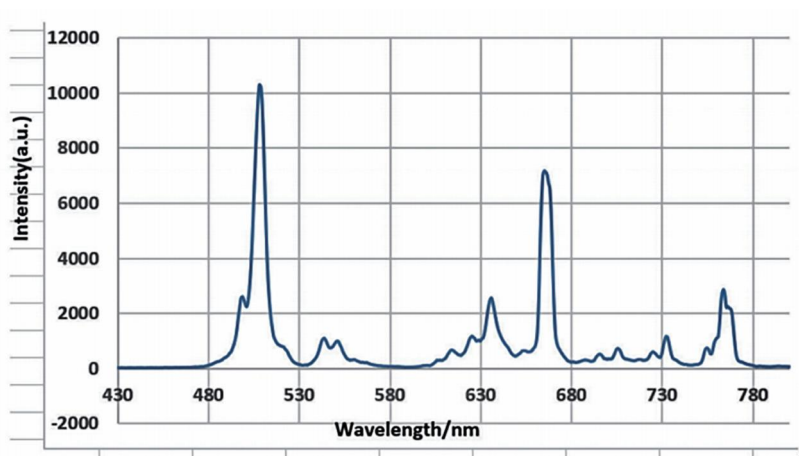
- Growth technique: Hot Pressing
- Dimension(max): 80 mm x 80 mm x 40 mm
- Achieved items: GOS sheet, GOS ceramic linear or 2 D arrays, GOS with PD detectors

GOS ceramic ($\text{Gd}_2\text{O}_3\text{S}$) belongs to hexagonal system structure, with no harmful to environment, high chemical stability and machinability. GOS doped with rare earth ion has relatively high light output and extremely low afterglow, saying $<0.1\%$ @3ms. The emission peaks range from 470 to 900 nm with the spectral sensitivity of silicon photodiodes, it has been widely used for purposes such as CT scanners, security devices and non-destructive testing.

General Properties

	GOS(Pr)	GOS(Tb)
Density(g/cm^3)	7.34	7.34
Wavelength of emission max(nm)	510	550
Decay time(us)	3	600
Light yield(ph/Mev)	28,000	45,000
Afterglow	$<0.1\%$ @3ms	$<0.1\%$ @20ms
Hygroscopic	No	No
Refractive index	2.2	2.2
Hardness(Moh)	4.5	4.5

Characterization



X-ray excited luminescence spectrum