



Phosphor Information Leaflet

GENERAL

Name	Gadolinium scandium aluminum garnet
Chemical formula	$Gd_3Sc_2Al_3O_{12}:Pr^{3+}$
Application areas	Solid state laser gain medium
Optical transition	$[Xe]4f^2 ({}^3H_J) - [Xe]4f^2 ({}^3P_J, {}^1D_2)$

OPTICAL PROPERTIES

Excitation maxima @	195 nm (6.36 eV), 239 nm (5.19 eV), 288 nm (4.31 eV), 450 nm (2.76 eV)
Emission maximum @ 288 nm exc.	611 nm (2.23 eV)
Centroid wavelength	631 nm (1.96 eV)
Full width @ half emission maximum	lines
Lumen equivalent	220 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.548, 0.371
Band edge of host lattice	170 nm (7.29 eV)
Reflection @ 288 nm	67%

PHYSICAL PROPERTIES

Body colour	Pale green
Density	5.83 g/cm ³
Refractive index (at λ)	1.87 (589.3 nm)
Mineral type	Garnet
Crystal system	Cubic
Space group (#)	Ia-3d (230)



