



Phosphor Information Leaflet

GENERAL

Name	Gadolinium scandium gallium oxide chromium
Chemical formula	$Gd_3Sc_2Ga_3O_{12}:Cr^{3+}$
Application areas	Solid state laser

OPTICAL PROPERTIES

Excitation maxima @ 730 nm	454 nm (2.73 eV), 640 nm (1.94 eV)
Emission maximum @ 460 nm exc.	746 nm (1.66 eV)
Centroid wavelength	756 nm (1.64 eV)
Full width @ half emission maximum	88 nm
Lumen equivalent	78 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.729; 0.277
Band edge of host lattice	-
Reflection @ 460 nm	70 %
Decay time $\tau_{1/e}$	102 μ s (em. 694 nm; 300 K) 425 μ s (em. 694 nm; 3 K)

PHYSICAL PROPERTIES

Body colour	Green
Density	6.48 g/cm ³
Refractive index	1.94
Mineral type	Garnets
Crystal system	Cubic
Space group (#)	<i>Ia-3d</i> (230)

