



Phosphor Information Leaflet

GENERAL

Name	Yttrium scandium gallium oxide chromium
Chemical formula	$Y_3Sc_2Ga_3O_{12}:Cr^{3+}$
Application areas	Solid state laser

OPTICAL PROPERTIES

Excitation maxima @ 740 nm	448 nm (2.77 eV), 620 nm (2 eV)
Emission maximum @ 450 nm exc.	731 nm (1.70 eV)
Centroid wavelength	743.2 nm (1.67 eV)
Full width @ half emission maximum	85 nm
Lumen equivalent	209 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.702; 0.298
Band edge of host lattice	-
Reflection @ 450 nm	81 %
Decay time $\tau_{1/e}$	125 μ s (em. 690 nm, 300 K); 1200 μ s (em. 690 nm, 3 K)

PHYSICAL PROPERTIES

Body colour	Green
Density	5.25 g/cm ³
Refractive index (at λ)	1.96 (@ 514.5 nm)
Mineral type	Garnets
Crystal system	Cubic
Space group (#)	<i>Ia-3d</i> (230)

