



Phosphor Information Leaflet

GENERAL

Name	Potassium germanate manganese
Chemical formula	$K_2Ge_4O_9:Mn^{4+}$
Application areas	pcLEDs for horticulture lighting
Optical transition	$[Ar]3d^3 (^4A_2) - [Ar]3d^3 (^4T_2)$

OPTICAL PROPERTIES

Excitation maxima @ 272 nm	297 nm (4.2 eV), 462 nm (2.7 eV)
Emission maximum @ 160 nm exc.	663 nm (1.9 eV)
Centroid wavelength	664 nm (1.9 eV)
Full width @ half emission maximum	25 nm (0.07 eV)
Lumen equivalent	47 lm/W _{VIS}
CIE1931 chromaticity coordinates (x, y)	0.72, 0.28
Band edge of host lattice	
Decay time $\tau_{1/e}$	1.1 ms

PHYSICAL PROPERTIES

Body colour	light yellow
Density	4.30 g/cm ³
Refractive index (at λ)	
Mineral type	Wadeite
Crystal system	Trigonal
Space group (#)	$P-3c1$ (165)

