

*Crystaltechno Ltd. offers grown in house*

## **Erbium-doped Yttrium Aluminum Garnet Crystals (YAG:Er)**

For Laser Technics

Yttrium aluminum garnet (YAG) is commonly used as a host material in various solid-state lasers. Rare earth element erbium is doped into YAG as active laser ions for creation of Er:YAG lasers active media.

Chemical formula, crystal : activator	$Y_3Al_5O_{12} : Er^{3+}$
Activator concentration, at. %	10÷50
Crystal structure	cubic
Lattice cell parameters, Å	12,008
Density, g/cm <sup>3</sup>	4,55
Melting point, ° C	1970
Mohs' hardness	8,5
Index of refraction	1,815
Laser transition	$^4I_{11/2} \rightarrow ^4I_{13/2}$
Emission wavelength, µm	2,936
Luminescence life time, ms	0,32
Linear coefficient of thermal expansion at (0 – 250) °C, K <sup>-1</sup>	$(0,8 – 0,9) \cdot 10^{-6}$
Thermal conductivity at 20 °C, W/(cm K)	0,14
Growth direction	[111]
Maximal dimensions of crystals, mm	150 x 250 x 25

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*If you are interested please feel free to contact us!  
You can receive the additional information*

*e-mail: [sales@crystaltechno.com](mailto:sales@crystaltechno.com)*