



Passive Q-Switch Crystal Cr:YAG

Cr⁴⁺:YAG is an excellent passive Q-switch crystal for Nd and Yb doped lasers (especially for Nd:YAG, Nd:YLF or Yb:YAG), if the wavelength is in the range of 900-1200 nm.

Wavelength range, nm	800-1200
Absorption cross-section, cm²	5×10 ⁻¹⁸ @1064nm
Standard Specifications	
Wavefront Distortion	≤λ/10@632.8nm
Dimensional Tolerances:	+0.0mm/-0,2mm
Parallelism error:	≤20 arcsec
Perpendicularity:	≤5 arcmin
Surface Quality:	10/5 Scratch/Dig.
Chamfer:	<0.1 mm @ 45deg
AR Coating Reflectivity:	≤0.2% @1064nm

Initial transmission @1064nm*	Dimensions**, mm	Coatings***	Price
T ₀ =30%	φ5	AR/AR@1064nm	284 €
	3x3	AR/AR@1064nm	271 €
	5x5	AR/AR@1064nm	284 €
T ₀ =40%	φ5	AR/AR@1064nm	284 €
	3x3	AR/AR@1064nm	271 €
	5x5	AR/AR@1064nm	284 €
T ₀ =50%	φ5	AR/AR@1064nm	284 €
	3x3	AR/AR@1064nm	271 €
	5x5	AR/AR@1064nm	284 €
T ₀ =60%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €
T ₀ =70%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €
T ₀ =80%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €
T ₀ =85%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €
T ₀ =90%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €
T ₀ =95%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €
T ₀ =97%	φ5	AR/AR@1064nm	271 €
	3x3	AR/AR@1064nm	258 €
	5x5	AR/AR@1064nm	271 €

* Different doping levels available.

**Other sizes are available on request.

*** Various dielectric coatings are available.

Custom design production is also available.



Passive Q-Switch Crystal $\text{Co}^{2+}:\text{MgAl}_2\text{O}_4$ (Co:Spinel)

$\text{Co}^{2+}:\text{MgAl}_2\text{O}_4$ (or Co:Spinel) is a relatively new material for saturable absorber passive Q-switching in lasers emitting from 1.2 to 1.6 μm , in particular, for eye-safe 1.54 μm Er:glass laser. High absorption cross section of $3.5 \times 10^{-19} \text{ cm}^2$ permits Q-switching of Er:glass laser without intracavity focusing both with flash-lamp and diode-laser pumping. Negligible excited-state absorption results in high contrast of Q-switch, i.e. the ratio of initial (small signal) to saturated absorption is higher than 10. Finally, excellent optical, mechanical, and thermal properties of the crystal give an opportunity to design compact and reliable laser sources with this passive Q-switch.

Wavelength range, nm	1200-1600
Absorption cross-section, cm^2	$3,5 \times 10^{-19}$ @1540nm
Standard Specifications	
Wavefront Distortion	$\leq \lambda/10$ @632.8nm
Dimensional Tolerances:	+0.0mm/-0,2mm
Parallelism error:	≤ 20 arcsec
Perpendicularity:	≤ 5 arcmin
Surface Quality:	10/5 Scratch/Dig.
Chamfer:	<0.1 mm @ 45deg
AR Coating Reflectivity:	$\leq 0.2\%$ @1540nm

Initial transmission @1540nm*	Dimensions**, mm	Coatings***	Price
T ₀ =30%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =40%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =50%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =60%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =70%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =80%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =85%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =90%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =95%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €
T ₀ =97%	φ5	AR/AR@1540nm	643 €
	3x3	AR/AR@1540nm	560 €
	5x5	AR/AR@1540nm	643 €

* Different doping levels available.

**Other sizes are available on request.

*** Various dielectric coatings are available.

Custom design production is also available.



Passive Q-Switch Crystal V:YAG

V³⁺:YAG is a relatively new material for saturable absorber passive Q-switching in lasers emitting from 1.06 to 1.44 μm , in particular, for 1.3 μm Nd-lasers. Extremely high ground state absorption (GSA) cross section of $7 \times 10^{18} \text{ cm}^2$ near 1.3 μm and negligible excited state absorption (ESA) permits Q-switching of 1.3 and 1.44 μm Nd-lasers without intracavity focusing both with flash-lamp and diode-laser pumping. Negligible excited-state absorption results in high contrast of Q-switch, i.e. the ratio of initial (small signal) to saturated absorption is higher than 10. Finally, excellent optical, mechanical, and thermal properties of the host crystal give an opportunity to design compact and reliable laser sources with this passive Q-switch.

Wavelength range, nm	1000-1450
Absorption cross-section, cm²	7.3×10^{-18} @1340nm
Standard Specifications	
Wavefront Distortion	$\leq \lambda/10$ @632.8nm
Dimensional Tolerances:	+0.0mm/-0.2mm
Parallelism error:	≤ 20 arcsec
Perpendicularity:	≤ 5 arcmin
Surface Quality:	10/5 Scratch/Dig.
Chamfer:	<0.1 mm @ 45deg
AR Coating Reflectivity:	$\leq 0.2\%$ @1340nm

Initial transmission @1540nm*	Dimensions**, mm	Coatings***	Price
T ₀ =30%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =40%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =50%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =60%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =70%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =80%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =85%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =90%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =95%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €
T ₀ =97%	φ5	AR/AR@1340nm	716 €
	3x3	AR/AR@1340nm	674 €
	5x5	AR/AR@1340nm	716 €

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