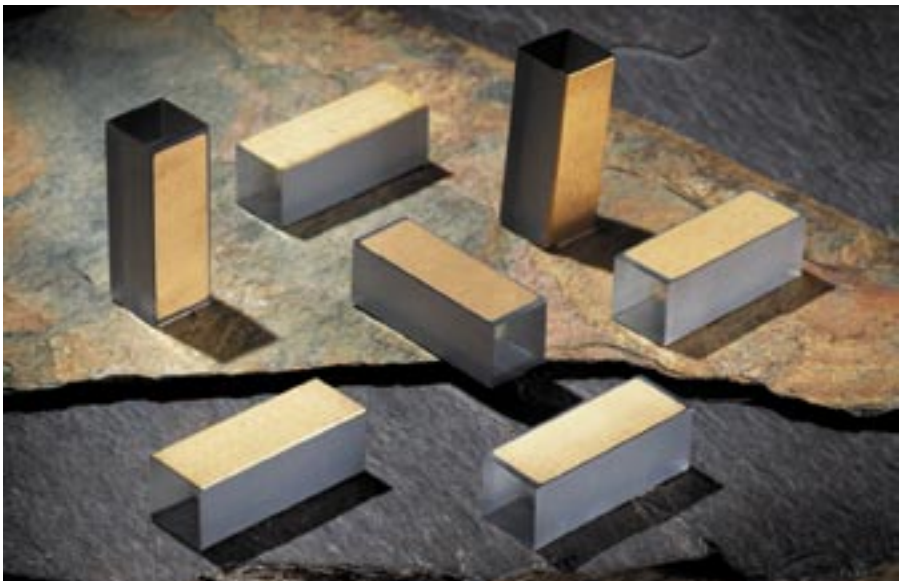
Electro-Optic

Q-switch crystal model 7100

- LOW INSERTION LOSS
- PRODUCED IN VOLUME
- HIGH CONTRAST RATIO
- HIGH DAMAGE THRESHOLD
- LOW WAVEFRONT DISTORTION



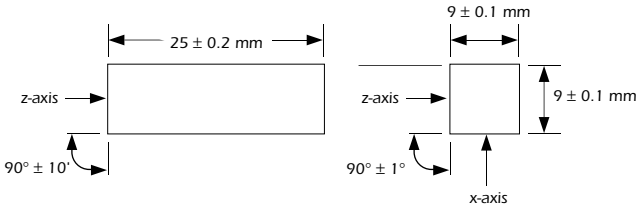
Crystal Technology's Model 7100 electro-optic Q-switch crystal employs the highest optical quality lithium niobate available. The electro-optic effect of lithium niobate makes it extremely useful for Pockels cell Q-switching of several lasers including Nd:YAG, Nd:YALO, Nd:YLF and Er:YLF. Lithium niobate Q-switches are used in both military and commercial applications, including target designating, range finding and opthalmic surgery. When used in the transverse mode with the electric field perpendicular to the optic or z-axis, lithium niobate achieves a high extinction ratio, very low transmission loss, low switching voltage, and temperature stability throughout a wide temperature range. These crystal characteristics, combined with Crystal Technology's established expertise in lithium niobate crystal growth and superior anti-reflection (AR) coating, make the Model 7100 an ideal candidate for rugged military use or industrial applications.

SPECIFICATIONS

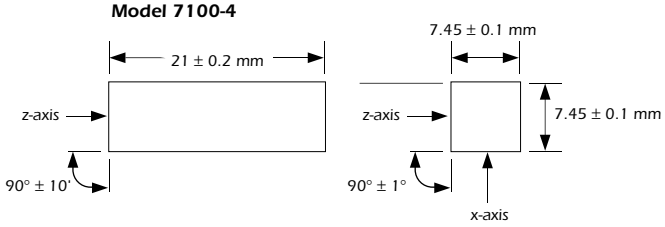
Orientation	Sides parallel to z-axis to ±10 minutes of arc
Polish	z-faces flat to λ/8 and parallel to 10 seconds of arc
Finish	x- and y-faces fine ground and all edges chamfered
Electrodes	X-faces, gold chromium electrodes
Coatings	AR coated with ≤0.2% reflection/surface @ 1064 microns
Optical Surface Quality	20/10 scratch dig
Wavefront Distortion	≤ λ/4, single pass @ 633 mm
Extinction Ratio	
Passive	≥100:1 @ 633 nm
Dynamic	≥100:1 @ 633 nm between crossed polarizers ≥50:1 @ 633 nm between parallel polarizes
Optical Damage Threshold	>200 MW/cm^2 * @ 1.064 µm

* Optical damage thresholds of >500 MW/cm^2 are available

Model 7100-1



Model 7100-4



Drawings not to scale.

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