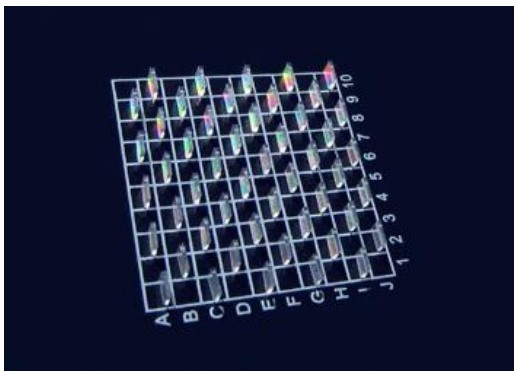
MgO:PPLN Crystals Chips for 532nm Laser Generation Using OC Mirrors

The MgO doped periodically poled lithium niobate (or MgO:PPLN crystals) is a kind of highly efficient nonlinear crystals, it can be used as the SHG, SFG, DFG, OPO and OPA components in the lasers. Hangzhou Shalom EO offeres the **MgO:PPLN crystals** chips of SHG 1064nm for 532nm laser generation with high-power up to 4 watts. Both surfaces of crystals are coated with the AR@1064nm and 532nm, the OC mirrors is needed in this type of the MgO:PPLN Chips.



Features

- Low cost
- High Power and high efficiency
- Small size
- OC mirrors needed
- Easy to be assembled into DPSS lasers

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SPECIFICATIONS

Optical Specifications	
Length	1.0~2.0mm
Width	~ 2.0mm
Thickness	0.5mm
Coating on Input facet	AR@1064nm + AR @532nm
Coating on Output facet	AR@1064nm + AR@532nm (Output Coupling mirror is needed)
Optical to Optical Efficiency (intra-cavity)	[3] 30%
Operation Temperature	~ 33°C
Temperature Tolerance	> 25 °C

Note: The PPLN crystals with the Copper heat-sink packing is available.

Polishing Specifications	
Tolerance of Size	(Width±0.1mm) x(Thickness±0.05mm) X (Length±0.1mm)
Flatness	< Lambda/8 @ 633nm
Wavefront Distortion	< Lambda/6 @ 633nm
Chips	<0.1mm
Surface Quality	20/10 S/D
Parallelism	<10″
Perpendicularity	<10′

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Basic Properties

Chemical and Physical Properties	
Melting Point	1255+/-5 ºC
Curie Point/Temperature	1140+/-5 ºC
Mohs Hardness	5
Density	4.648(5)g/cm3
Thermal conductivity	38W/m/K @ 25 ºC
Coefficient of thermal expansion	//a, 2.0x10-6/K //c, 2.2x10-6/K

Optical and Nonlinear properties	
Wavelength range of Transmission	420nm ~ 5200nm
Nonlinear coefficient	d33 = 34.4 pm/V d31 = d15 = 5.95 pm/V d22 = 3.07 pm/V
Optical Damaging Threshold	0.3GW/cm2
Absorptive Coefficient	0.004/cm @ 1064nm

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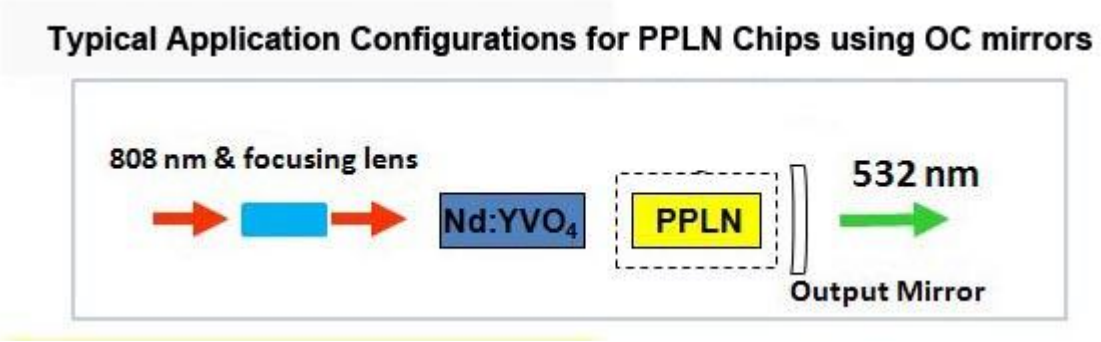
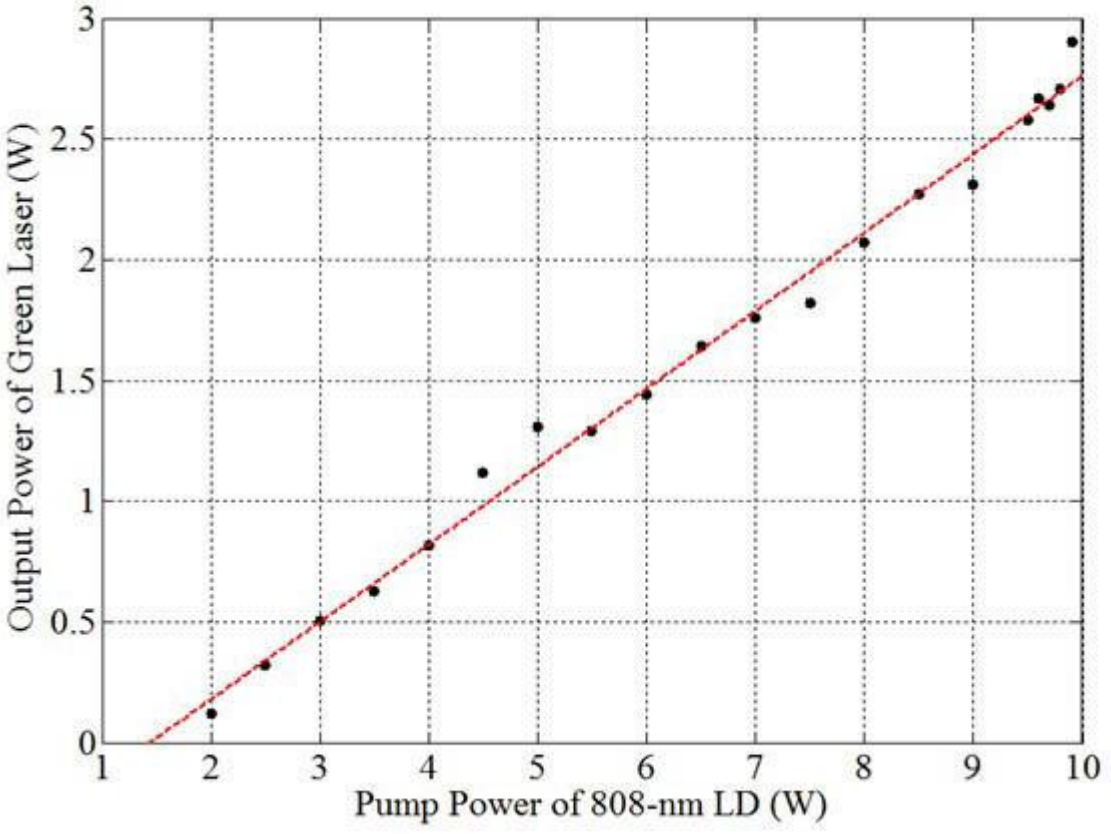
Application Notes

Typical Application Configurations for PPLN Chips using OC mirrors



Typical Performance Curve



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