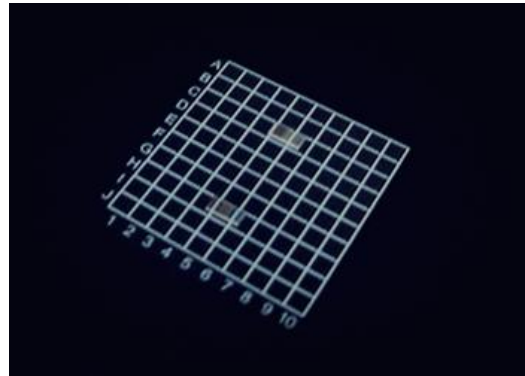
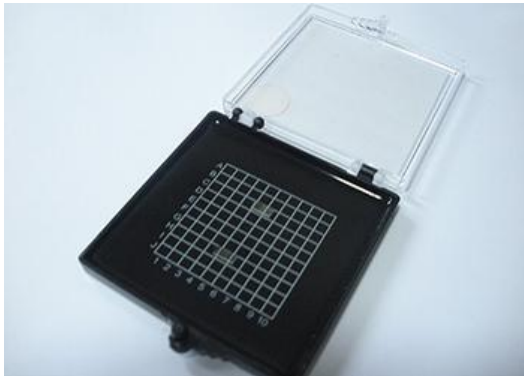


## MgO:PPLN Crystals Chips for MIR OPO

The MgO doped periodically poled lithium niobate Crystals Chips (or MgO:PPLN crystals) is a type of highly efficient NLO's crystals, it can be used as SHG, DFG,SFG, OPO and OPA components in the lasers. Shalom EO offers the **MgO:PPLN crystals chips** for OPO and OPA applications at middle infrared (or MIR) wavelength range. The custom crystals chips are available upon customer's request.



## SPECIFICATIONS

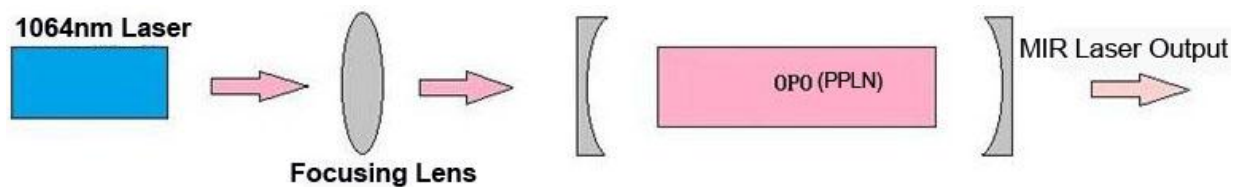
Optical Specifications	
Chip Length	10.0 ~ 50.0mm
Chip Width	2.0 ~ 10.0mm
Chip Thickness	0.5, 0.75 and 1.0mm
Coatings	customized
Poling Period	Customized

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

Polishing Specifications	
Tolerance of Size	(Width $\pm$ 0.1mm) x (Thickness $\pm$ 0.05mm) X (Length $\pm$ 0.1mm)
Flatness	< $\lambda/8$ @ 633nm
Wavefront Distortion	< $\lambda/6$ @ 633nm
Chips	<0.1mm
Surface Quality	20/10 S/D
Parallelism	<10"
Perpendicularity	<10'

## Application Notes

### Applications Configuration of OPO MgO:PPLN Chips



## Basic Properties

Chemical and Physical Properties	
Melting Point	1255+/-5 °C
Curie Point/Temperature	1140+/-5 °C
Mohs Hardness	5
Density	4.648(5)g/cm3
Thermal conductivity	38W/m/K @ 25 °C
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
Sellmeier Equation	a1 5.35 b1 4.63*10-7
	a2 0.1 b2 3.86*10-8
	a3 0.2 b3 -0.89*10-8
	a4 100 b4 2.66*10-5
	a5 11.349 a6 0.015
	$n_e^2 = a_1 + b_1 f + \frac{a_2 + b_2 f}{\lambda^2 - (a_3 + b_3 f)^2} + \frac{a_4 + b_4 f}{\lambda^2 - a_5^2} - a_6 \lambda^2$ $f = (T - 24.5^\circ\text{C})(T + 570.8)$