

## DLOK

AOTK provides a complete kits of Diode Pumped Solid State Laser. The DPSSL kits include all the crystals and optical components as list in the following table.



### Laser Crystals for Green Laser

Crystal	Description	One Surface			Other Surface		Part No.
		1064 nm	808 nm	532 nm	1064 nm	532 nm	
Nd:YVO <sub>4</sub>	1%, 3x3x1 mm	R>99.8%	R<5%		R<0.1%		DLOK0101
Nd:YVO <sub>4</sub>	1%, 3x3x1 mm	R>99.8%	R<5%	R>98%	R<0.1%		DLOK0102
Nd:YVO <sub>4</sub>	2%, 3x3x1 mm	R>99.8%	R<5%		R<0.1%		DLOK0103
Nd:YVO <sub>4</sub>	2%, 3x3x1 mm	R>99.8%	R<5%	R>98%	R<0.1%		DLOK0104
Nd:YVO <sub>4</sub>	0.3%, 3x3x0.5 mm	R>99.8%	R<5%		R<0.1%		DLOK0105
Nd:YVO <sub>4</sub>	0.3%, 3x3x0.5 mm	R>99.8%	R<5%	R>98%	R<0.1%		DLOK0106
Nd:YVO <sub>4</sub>	1%, 3x3x3 mm	R<0.1%	R<5%		R<0.1%		DLOK0107
Nd:YVO <sub>4</sub>	1%, 3x3x5 mm	R<0.1%	R<5%		R<0.1%		DLOK0108
Nd:YVO <sub>4</sub>	1%, 3x3x8 mm	R<0.1%	R<5%		R<0.1%		DLOK0109
Nd:YVO <sub>4</sub>	0.7%, 4x4x4 mm	R<0.1%	R<5%		R<0.1%		DLOK0110
Nd:YVO <sub>4</sub>	0.5%, 4x4x7 mm	R<0.1%	R<5%		R<0.1%		DLOK0111
Nd:YVO <sub>4</sub>	0.5%, 3x3x12 mm	R<0.1%	R<5%		R<0.1%		DLOK0112
Nd:YVO <sub>4</sub>	0.27%, 3x3x12 mm	R<0.1%	R<5%		R<0.1%		DLOK0113
Nd:GdVO <sub>4</sub>	1%, 3x3x1 mm	R>99.8%	R<5%		R<0.1%		DLOK0114
Nd:GdVO <sub>4</sub>	1%, 3x3x1 mm	R>99.8%	R<5%	R>98%	R<0.1%		DLOK0115
Nd:GdVO <sub>4</sub>	2%, 3x3x1 mm	R>99.8%	R<5%		R<0.1%		DLOK0116
Nd:GdVO <sub>4</sub>	2%, 3x3x1 mm	R>99.8%	R<5%	R>98%	R<0.1%		DLOK0117
Nd:GdVO <sub>4</sub>	1%, 3x3x3 mm	R<0.1%	R<5%		R<0.1%		DLOK0118
Nd:GdVO <sub>4</sub>	1%, 3x3x5 mm	R<0.1%	R<5%		R<0.1%		DLOK0119
Nd:GdVO <sub>4</sub>	1%, 3x3x8 mm	R<0.1%	R<5%		R<0.1%		DLOK0120
Nd:GdVO <sub>4</sub>	0.7%, 4x4x4 mm	R<0.1%	R<5%		R<0.1%		DLOK0121
Nd:GdVO <sub>4</sub>	0.5%, 4x4x7 mm	R<0.1%	R<5%		R<0.1%		DLOK0122
Nd:GdVO <sub>4</sub>	0.5%, 3x3x12 mm	R<0.1%	R<5%		R<0.1%		DLOK0123
Nd:GdVO <sub>4</sub>	0.27%, 3x3x12 mm	R<0.1%	R<5%		R<0.1%		DLOK0124
Nd:YAG	1%, 3x3x5 mm	R<0.1%	R<5%		R<0.1%		DLOK0125
Nd:YAG	1%, φ3x5 mm	R<0.1%	R<5%		R<0.1%		DLOK0126
Cr <sup>4+</sup> :YAG	T=60%, 70%, 80%, 90%	R<0.1%			R<0.1%		DLOK0127

### Nonlinear Optical Crystals

Crystal	Description	One Surface			Other Surface		Part No.
		1064 nm	808 nm	532 nm	1064 nm	532 nm	
KTP	2x2x5 mm, SHG	R< 0.15%		R<0.3%	R< 0.15%	R< 0.3%	DLOK0201
KTP	2x2x5 mm, SHG	R>99.8%		R<5%	R< 0.15%	R< 0.3%	DLOK0202
KTP	3x3x5 mm, SHG	R< 0.15%		R<0.3%	R< 0.15%	R< 0.3%	DLOK0203
KTP	3x3x5 mm, SHG	R>99.8%		R<5%	R< 0.15%	R< 0.3%	DLOK0204

LBO	2x2x10 mm, SHG	R< 0.15%		R<0.3%	R< 0.15%	R< 0.3%	DLOK0205
LBO	3x3x10 mm, SHG	R< 0.15%		R<0.3%	R< 0.15%	R< 0.3%	DLOK0206
BBO	3x3x7 mm, SHG	R< 0.15%		R<0.3%	R< 0.15%	R< 0.3%	DLOK0207
BBO	3x3x7 mm, THG	R< 0.15%		R<0.3%	R< 0.5% @ 355 nm		DLOK0208
BBO	3x3x7 mm, 4HG			R<0.3%	R< 0.5% @ 266 nm		DLOK0209

#### Output Couplers (Plano/Concave; Plano/Plano)

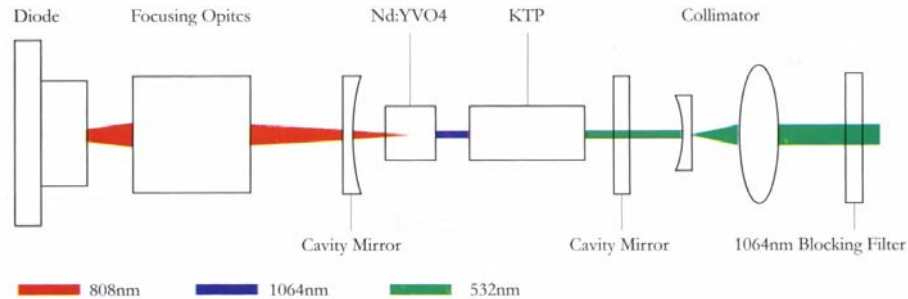
Substrate	Description	One Surface			Other Surface		Part No.
		1064 nm	808 nm	532 nm	1064 nm	532 nm	
BK7	φ10x3mm R = 50, 80 or 100, 200 mm	R>99.8%		R<5%		R< 0.2%	DLOK0301
BK7		R>99.8%	R<5%		R< 0.2% @ 808nm		DLOK0302
BK7		R>99.8%	R<5%	R>98%	R< 0.2% @ 808nm		DLOK0303
BK7	φ10x3mm	R>99.8%		R<5%		R< 0.2%	DLOK0304
BK7		R>99.8%	R<5%		R< 0.2% @ 808nm		DLOK0305
BK7		R>99.8%	R<5%	R>98%	R< 0.2% @ 808nm		DLOK0306

#### Note

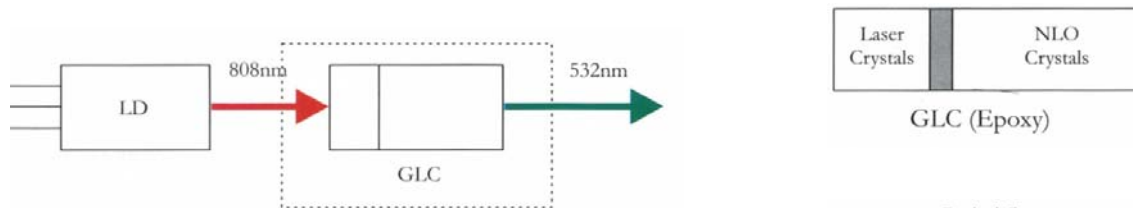
- Other crystals, size and coatings (AR or HR coatings) are available upon requests.
- AOTK has enough quantities of Cr<sup>4+</sup>:YAG passive Q-switch wafers and discs (3x3 mm, and 6, 8, 9, 10 mm diameter) with AR coating at 1064nm and versatile initial transmission in stock.
- Blue DPSS laser kits are available upon requests. Please contact us for more information.

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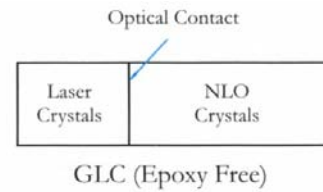
The most advantage of DPSS laser is its compact package, especially for Green Laser Pointer. AOTK supplies which combine Nd:YVO<sub>4</sub> or Nd:GdVO<sub>4</sub> crystal with KTP crystal, resulting in efficient, ultra-compact, diode pumped laser devices emitting the green laser. It greatly reduces your material cost and enhances assembling efficiency. The large quantity DPSS laser components can be available from AOTK with competitive price, stable output power quality, fast delivery for research, industrial and commercial customers.



Low Power GLC (combined by Epoxy)



High Power GLC (combined by Epoxy)



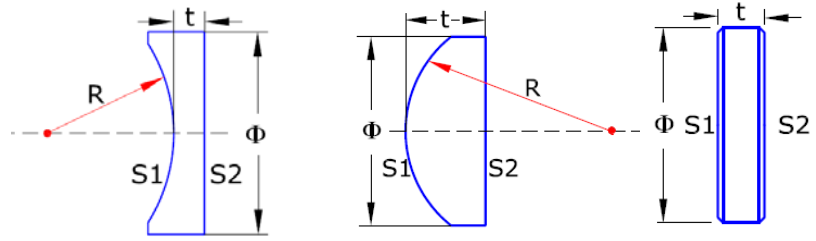
### Standard Specifications

Part No.	Size	Aperture	Type	Max. Output at 532nm
GLC-0101	1.0x1.0x2.5 mm	> 70%	Epoxy	< 20mW
GLC-0102	1.5x1.5x2.5 mm	> 75%	Epoxy	< 20mW
GLC-0103	2.0x2.0x2.5 mm	> 80%	Epoxy	< 20mW
GLC-0201	1.0x1.0x2.5 mm	> 70%	Epoxy Free	< 35mW
GLC-0202	1.5x1.5x2.5 mm	> 75%	Epoxy Free	< 35mW
GLC-0203	2.0x2.0x2.5 mm	> 80%	Epoxy Free	< 35mW

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# Substrate for Laser Cavity

Substrate for Plano-Concave Mirrors,  
Plano-Convex Mirrors or Output Couplers.



## Specifications

Material	BK7 Grade A, Fine Annealed Optical Glass
Diameter Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm
Clear Aperture	> 80%
Flatness	$\lambda/8$ @ 632.8nm
Surface Quality	10/5 Scratch and Dig
Bevel	0.25mm $\times$ 45°

## Standard Products

R (mm)	$\phi$ (mm)	t (mm)	Part No.
-25.0	10.0	3.0	PVL1001
-25.0	25.4	6.35	PVL1002
-30.0	10.0	3.0	PVL1003
-30.0	25.4	6.35	PVL1004
-40.0	10.0	3.0	PVL1005
-40.0	25.4	6.35	PVL1006
-50.0	10.0	3.0	PVL1007
-50.0	25.4	6.35	PVL1008
-80.0	10.0	3.0	PVL1009
-80.0	25.4	6.35	PVL1010
-100.0	10.0	3.0	PVL1011
-100.0	25.4	6.35	PVL1012
-150.0	10.0	3.0	PVL1013
-150.0	25.4	6.35	PVL1014
-200.0	10.0	3.0	PVL1015
-200.0	25.4	6.35	PVL1016
-250.0	10.0	3.0	PVL1017
-250.0	25.4	6.35	PVL1018
-300.0	10.0	3.0	PVL1019
-300.0	25.4	6.35	PVL1020
-400.0	10.0	3.0	PVL1021
-400.0	25.4	6.35	PVL1022
-500.0	10.0	3.0	PVL1023
-500.0	25.4	6.35	PVL1024
100.0	10.0	3.0	PXL2001
100.0	25.4	6.35	PXL2002
200.0	10.0	3.0	PXL2003
200.0	25.4	6.35	PXL2004
300.0	10.0	3.0	PXL2005
300.0	25.4	6.35	PXL2006

500.0	10.0	3.0	PXL2007
500.0	25.4	6.35	PXL2008
Plano/ Plano	10.0	3.0	PPL3001
Plano/ Plano	12.7	6.35	PPL3002
Plano/ Plano	25.4	6.35	PPL3003

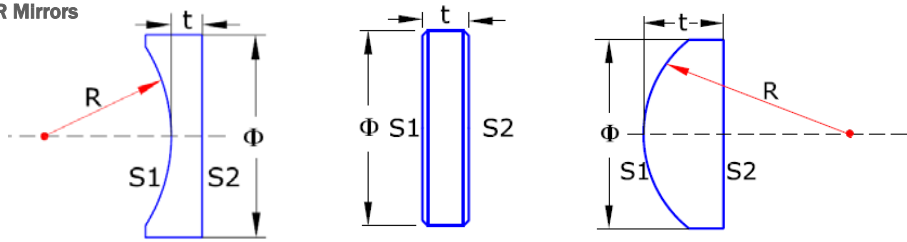
**Note**

- R is radius of curvature.
- Other sizes and coatings are also available upon request.

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## 1064nm, 1053nm, 1047nm HR Mirrors



### Specifications

Material	BK7 Grade A, Fine Annealed Optical Glass
Diameter Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm
Clear Aperture	> 80%
Flatness	$\lambda/8$ @ 632.8nm
Surface Quality	10/5 Scratch and Dig
Bevel	0.25mm $\times$ 45°
Parallelism for Plano-Plano Mirror	< 1 arc minute
Coatings	HR coatings on S1, R>99.8@ 1064nm, 1053nm or 1047nm AR Coated on S2

## 1064nm, 1053nm, 1047nm Output Couplers

### Specifications

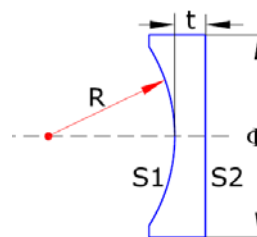
Material	BK7 Grade A, Fine Annealed Optical Glass
Diameter Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm
Clear Aperture	> 80%
Flatness	$\lambda/8$ @ 632.8nm
Surface Quality	10/5 Scratch and Dig
Bevel	0.25mm $\times$ 45°
Parallelism for Plano-Plano Mirror	< 1 arc minute
Coatings	PR coatings on S1, R Tolerance +/-2% R = 60%, 70%, 80%, 90%, 95% @ 1064nm, 1053nm or 1047nm AR coating on S2, R<0.2% @ 1064nm, 1053nm or 1047nm

### Note

- Size and radius of curvature, please refer to the substrate for laser cavity.
- Other sizes and coatings are also available upon request.

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Laser Output Coupler is commonly used in laser cavity.



## Specifications

Material	BK7 Grade A Glass, Fine Annealed Optical Glass
Dimension Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm
Clear Aperture	>80%
Flatness	$\lambda/8$ @ 632.8nm
Parallelism for Plano-Flat	<1 arc minute
Surface Quality	10/5 Scratch and Dig
Bevel	0.25mm $\times$ 45°
Coating	HR Coating on S1, AR Coated on S2

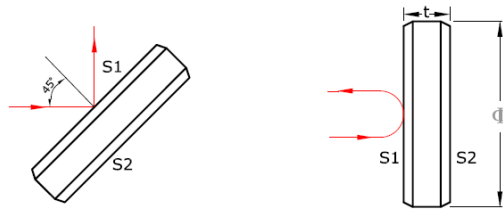
## Standard Products

R (mm)	$\phi$ (mm)	t (mm)	Part No.
$\infty$	10.0	3.0	LOC1001
-30.0	10.0	3.0	LOC1002
-50.0	25.4	6.35	LOC1003
-500.0	25.4	6.35	LOC1004
200.0	25.4	6.35	LOC1005
2000.0	25.4	6.35	LOC1006

## Note

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## Specifications

Material	BK7 Grade A Glass or UV Fused Silica
Dimension Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm
Clear Aperture	>80%
Flatness	$\lambda/10$ @ 632.8nm
Parallelism for Plano-Flat	<1 arc minutes
Surface Quality	20/10 Scratch and Dig
Bevel	0.2 to 0.5mm $\times$ 45°
Coating	HR Coating on S1, $R > 99.5\%$ for Random Polarization $R_s > 99.9\%$ , $R_p > 99.2\%$ , $R = (R_s + R_p)/2$ , Uncoated on S2

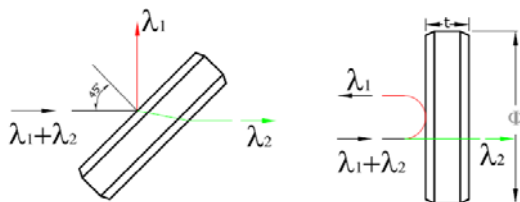
## Standard Products

Wavelength (nm)	Incident Angle	Material	$\phi$ (mm)	t (mm)	Part No.
1064	45°	BK7	25.4	6.35	FPM1001
1064	45°	BK7	50.8	6.35	FPM1002
532	0°	BK7	25.4	6.35	FPM1003
532	45°	Fused Silica	25.4	6.35	FPM1101
355	0°	Fused Silica	25.4	6.35	FPM1102
355	45°	Fused Silica	25.4	6.35	FPM1103

## Note

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## Specifications

Material	BK7 Grade A Glass or UV Grade Fused Silica
Dimension Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm
Clear Aperture	>80%
Flatness	$\lambda/10$ @ 632.8nm
Parallelism for Plano-Flat	<1 arc minute
Surface Quality	20/10 Scratch and Dig
Bevel	0.25mm × 45°
Coating	Specified by Customer

## Standard Products

Incident Angle	HR @ 1064nm	HT @ 532nm	φ (mm)	t (mm)	Part No.
0°	R>99.5%	R<15%	25.4	6.35	PHS1001
45°	R>99.5%	R<15%	25.4	6.35	PHS1002

Incident Angle	HT @ 1064nm	HR @ 532nm	φ (mm)	t (mm)	Part No.
0°	R<15%	R>99.5%	25.4	6.35	PHS2001
45°	R<15%	R>99.5%	25.4	6.35	PHS2002

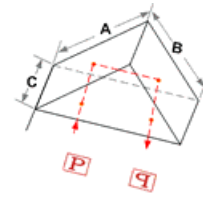
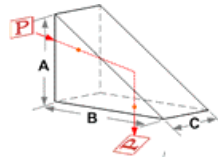
## Note

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# Laser Grade Right Angle Prisms

Laser Grade Right angle prism is deviating or deflecting a beam of light with 90° or 180°. It is often used in laser system.



Type One: 90 Deflection    Type Two: 180 Deflection

## Specifications

Material	BK7 Optical Glass or UV Fused Silica
Dimension Tolerance	+0.0/-0.2 mm
Angle Tolerance	< 3 arc minutes
Flatness	$\lambda/10$ @ 632.8nm
Clear Aperture	>80%
Surface Quality	20/10 Scratch and Dig
Bevel	0.25mm $\times$ 45°
Coating	Uncoated

## Standard Products

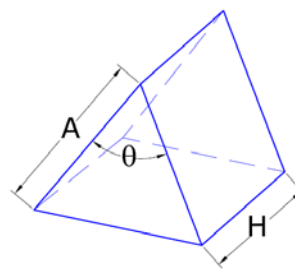
Dimension (mm)	Material	Part No.
A = B = C = 5.0	BK7	LRAP1001
A = B = C = 12.7	BK7	LRAP1002
A = B = C = 15.0	BK7	LRAP1003
A = B = C = 25.4	BK7	LRAP1004
A = B = C = 5.0	Fused Silica	LRAP2001
A = B = C = 12.7	Fused Silica	LRAP2002
A = B = C = 15.0	Fused Silica	LRAP2003
A = B = C = 25.4	Fused Silica	LRAP2004

## Note

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Laser Grade Dispersion Prism is a commonly used optical component for dispersing the spectrum.



## Specifications

Material	BK7 Optical Glass or UV Fused Silica
Dimension Tolerance	+0.0/-0.2 mm
Angle	$\theta = 60^\circ \pm 3'$
Clear Aperture	>80%
Flatness	$\lambda/10 @ 632.8\text{nm}$
Surface Quality	20/10 Scratch and Dig
Bevel	0.25mm $\times$ 45°
Coating	Uncoated

## Standard Products

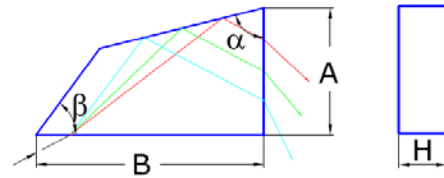
Dimension (mm)	Material	Part No.
A = H = 15.0	BK7	DP1001
A = H = 20.0	BK7	DP1002
A = H = 25.4	BK7	DP1003
A = H = 15.0	Fused Silica	DP2001
A = H = 20.0	Fused Silica	DP2002
A = H = 25.4	Fused Silica	DP2003

## Note

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Laser Pellin-Broca Prism is composed by two 30° dispersion prisms and a right angle prism. The mutual perpendicular surfaces are of the input and output surfaces. When a beam incident in one of the two surfaces at Brewster angle, then the beam will also output at Brewster angle from another surface, and the beam is deviated 90 degree. It is often used as a dispersion prism.



## Specifications

Material	BK7 Optical Glass or UV Fused Silica
Dimension Tolerance	+0.0/-0.2 mm
Angle	$\alpha = 79.5^\circ \pm 5^\circ$ , $\beta = 60^\circ \pm 1^\circ$
Clear Aperture	>80%
Flatness	$\lambda/10$ @ 632.8nm
Surface Quality	20/10 Scratch and Dig
Bevel	0.25mm $\times$ 45°
Coating	Uncoated

## Standard Products

Material	A (mm)	B (mm)	H (mm)	Part No.
BK7	23.5	40.0	12.7	LPBP1001
BK7	36.0	60.0	25.4	LPBP1002
Fused Silica	11.0	20.0	6.4	LPBP2001
Fused Silica	23.5	40.0	12.7	LPBP2002

## Note

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