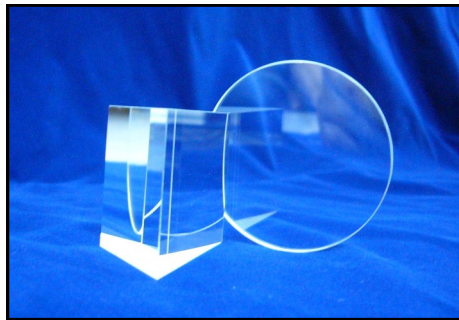
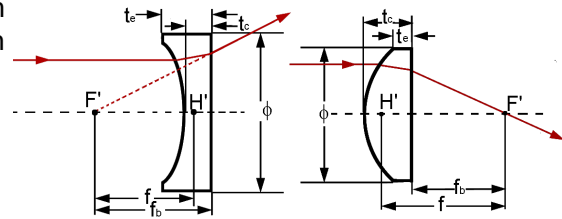


# Lenses - Sapphire

Sapphire are ideal for demanding applications (e.g. Laser systems) because of their extreme surface hardness, high thermal conductivity, high dielectric constant and resistance to common chemical acids and alkalis. Sapphire is the second hardest crystal next to diamond and because of their structural strength, sapphire windows can be made much thinner than other common dielectric windows with improved transmittance. Chemically, sapphire is single crystal aluminum oxide (Al<sub>2</sub>O<sub>3</sub>) and is useful in a transmission range of 0.15 to 5.5 microns.



Specifications	
Materials	Optical Grade Sapphire Crystal
Paraxial Focal Length	± 2%
Design Index	1.771 @ 546.1nm for Sapphire
Centration	3 arc minutes
Diameter tolerance	+0.0, -0.15mm
Clear Aperture Diameter	90%
Surface Quality	80-50 scratch and dig

Part No.	f (mm)	Ø (mm)	R <sub>1</sub> (mm)	t <sub>c</sub> (mm)	t <sub>e</sub> (mm)	f <sub>b</sub> (mm)
LSPX2101	5.0	5.0	3.86	2.9	2.0	3.4
LSPX2201	10.0	10.0	7.71	3.8	2.0	7.9
LSPX2202	20.0	10.0	15.42	2.8	2.0	18.4
LSPX2203	25.0	10.0	19.28	2.7	2.0	23.5
LSPX2301	50.0	20.0	38.55	3.3	2.0	48.1
LSPX2302	100.0	20.0	77.10	2.7	2.0	98.5
LSPX2303	150.0	20.0	115.65	2.4	2.0	148.6
LSPX2304	200.0	20.0	154.20	2.3	2.0	198.7
LSPV2101	-5.0	5.0	-3.86	2.0	2.9	3.9
LSPV2201	-10.0	10.0	-7.71	2.0	3.8	8.9
LSPV2202	-20.0	10.0	-15.42	2.0	2.8	18.9
LSPV2203	-25.0	10.0	-19.28	2.0	2.7	23.9
LSPV2301	-50.0	20.0	-38.55	2.0	3.3	48.9
LSPV2302	-100.0	20.0	-77.10	2.0	2.7	98.9
LSPV2303	-150.0	20.0	-115.65	2.0	2.4	148.9
LSPV2304	-200.0	20.0	-154.20	2.0	2.3	198.9