



UV 级抛光氟化镁 MgF₂ 平凸透镜 (直径 25.4mm 焦距 125mm)



描述

MgF₂ 能很好地透过 VUV 区域到莱曼-阿尔法氢线 (121nm) 甚至更远。氟化镁主要用于 UV 光谱, 并且对于准分子激光具有很好的应用。MgF₂ 通过真空 Stockbarger 技术在各种直径的铸块中生长。氟化镁是一种坚韧的材料, 并且抛光良好。因此, 它可以工作到业界高标准。MgF₂ 具有微弱的双折射性质, 并且通常提供垂直于窗面切割的光轴。

产品特点

高数值孔径, 优秀收集效率, 紧凑的单透镜设计, 衍射限制设计, RoHS 认证

产品型号

MGF25.4LENS125





应用领域

深红外光谱分析

紫外激光传输

X射线检测

红外光学

外延基片

核心参数

透射范围	规格尺寸
0.12-7 μ m	25.4mm $\varnothing$

详细参数

透射波长范围:	0.12 to 7 μ m
折射率:	No 1.413 at 0.22 μ m
反射损耗 :	5.7% at 0.22 μ m (2 surfaces)
吸收系数 :	$40 \times 10^{-3} \text{ cm}^{-1}$ at 2.7 μ m
Reststrahlen Peak :	20 μ m
dn/dT :	2.3 (para) 1.7 (perp) at 0.4 μ m
dn/d μ = 0 :	1.4 μ m
密度:	3.18g/cc



熔点:	1255°C
热导率:	21 (para) 33.6 (perp) W m ⁻¹ K ⁻¹ at 300K
热膨胀:	13.7 (para) 8.9 (perp) x 10 ⁻⁶ /K
硬度:	Knoop 415
比热容:	1003 J Kg m ⁻¹ K ⁻¹
介电常数 :	4.87 (para) 5.45 (perp) at 1MHz
Youngs Modulus (E) :	138 GPa
剪切模量 (G) :	54.66GPa
体积弹性模量 (K) :	101.32 GPa
弹性系数 :	C ₁₁ =140 C ₁₂ =89 C ₄₄ =57 C ₁₃ =63 C ₆₆ =96
表观弹性极限 :	49.6 MPa (7200 psi)
泊松比 :	0.276
溶解度 :	0.0002g/100g water
分子量 :	62.32

类别/结构：	四方 P42/mnm (#136) 金红石结构。可以在 c 轴上切割，但不容易。 (Tetragonal P42/mnm (#136) Rutile Structure. Can cleave on c-axis but not easily.)
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注 1：警告：镉盐是应该考虑毒性，所以操作时候务必小心。

折射率

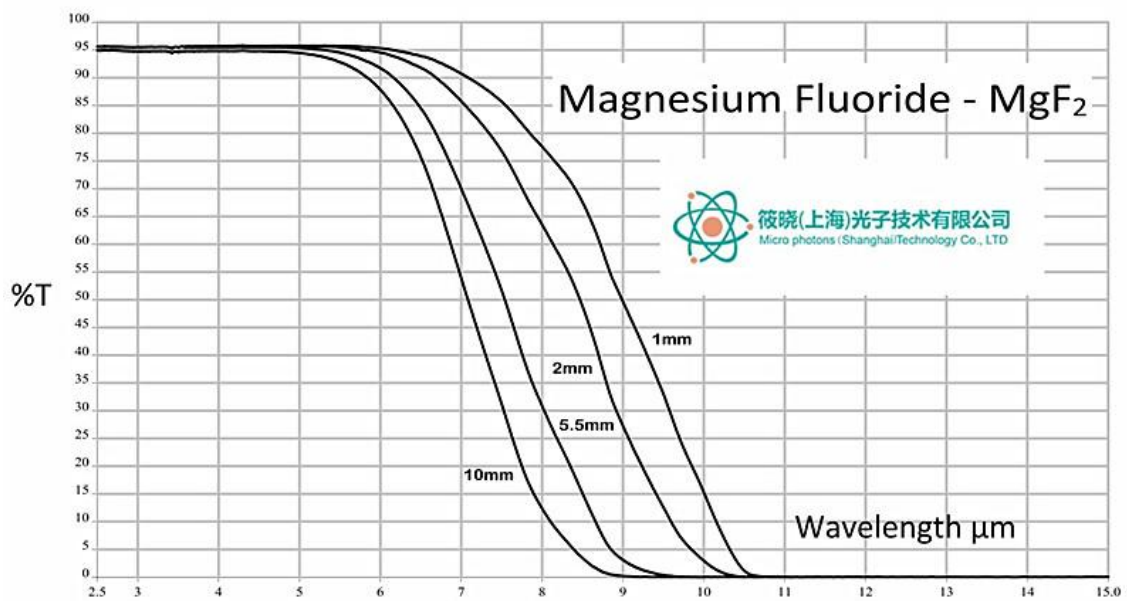
No = Ordinary Ray 普通射线 Ne = Extraordinary Ray 特殊射线

μm	No	Ne	μm	No	Ne	μm	No	Ne
0.1137	1.7805		0.1149	1.7420		0.1179	1.6800	
0.1198	1.6510		0.121	1.628	1.632	0.130	1.566	1.568
0.140	1.5095	1.523	0.150	1.480	1.494	0.160	1.461	1.475
0.170	1.448	1.462	0.180	1.439	1.453	0.190	1.431	1.444
0.200	1.423	1.437	0.220	1.413	1.426	0.248	1.403	1.416
0.257	1.401	1.414	0.266	1.399	1.412	0.280	1.396	1.409
0.300	1.393	1.405	0.330	1.389	1.402	0.337	1.389	1.401
0.350	1.387	1.400	0.355	1.386	1.399	0.400	1.384	1.396

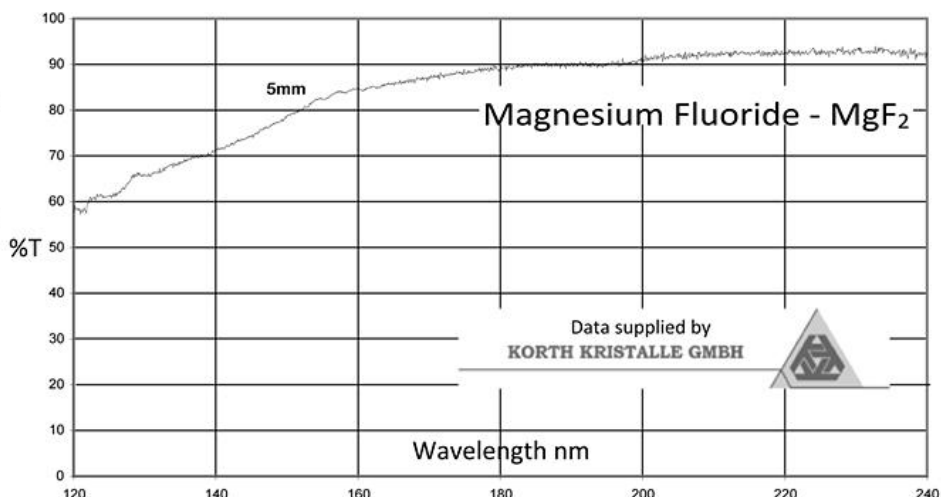
0.546	1.379	1.390	0.700	1.376	1.388	1.087	1.373	1.385
1.512	1.370	1.382	2.000	1.368	1.379	2.5	1.364	1.375
3.030	1.360	1.370	3.571	1.354	1.364	4.000	1.349	1.359
4.546	1.341	1.350	5.000	1.334	1.343	5.556	1.324	1.332
6.060	1.314	1.321						

特性曲线

透射曲线图



Routine transmission at 121nm is usually a minimum of 40% through a 2mm sample. This curve represents the maximum transmission that we can achieve under ideal conditions of material and polish at high cost.



订购信息

订购型号	规格	曲率	焦距	材料等级	参数表																																		
MGF20LE NS40	20.0mm Ø	49.95 (±2%)	40mm @ 121nm	VUV 双凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 40mm diameter x 235mm F.L. @121nm MATERIAL: VUV Grade MgF₂ <table><tr><td>Diameter:</td><td>40.0mm (+0/-0.1mm)</td></tr><tr><td>Clear Aperture</td><td>80% of diameter</td></tr><tr><td>Edge thickness:</td><td>2.0mm</td></tr><tr><td>Centre Thickness:</td><td>3.5mm derived</td></tr><tr><td>Chamfers:</td><td>approx 0.1mm break-edge</td></tr><tr><td>Radius of Curvature 1:</td><td>148.08 (test plate)</td></tr><tr><td>Radius of Curvature 2:</td><td>Plano</td></tr><tr><td>Centration</td><td>Not specified</td></tr><tr><td>Surface Accuracy</td><td>Not specified</td></tr><tr><td>S/D:</td><td>40/20</td></tr><tr><td>Coating:</td><td>None</td></tr></table> <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>235mm</td></tr><tr><td>200nm</td><td>350mm</td></tr><tr><td>633nm</td><td>393mm</td></tr><tr><td>2µm</td><td>402mm</td></tr><tr><td>4µm</td><td>424mm</td></tr></table>	Diameter:	40.0mm (+0/-0.1mm)	Clear Aperture	80% of diameter	Edge thickness:	2.0mm	Centre Thickness:	3.5mm derived	Chamfers:	approx 0.1mm break-edge	Radius of Curvature 1:	148.08 (test plate)	Radius of Curvature 2:	Plano	Centration	Not specified	Surface Accuracy	Not specified	S/D:	40/20	Coating:	None	Effective Focal length		121nm	235mm	200nm	350mm	633nm	393mm	2µm	402mm	4µm	424mm
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MGF25LE NS275	25.0mm Ø	344 (±2%)	275mm @ 121nm	VUV 双凸	MAGNESIUM FLUORIDE BI-CONVEX LENS 25mm diameter x 275mm F.L. @121nm MATERIAL: VUV Grade MgF₂ Diameter: 25mm (+0/-0.1mm) Clear Aperture 80% of diameter Edge thickness: 3.0mm <i>derived</i> Centre Thickness: 3.5mm Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 344mm (test plate) Radius of Curvature 2: 344mm (test plate) Centration Not specified Surface Accuracy Not specified S/D 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>275mm</td></tr><tr><td>200nm</td><td>405mm</td></tr><tr><td>633nm</td><td>456mm</td></tr><tr><td>2µm</td><td>467mm</td></tr><tr><td>4µm</td><td>492mm</td></tr></table>	Effective Focal length		121nm	275mm	200nm	405mm	633nm	456mm	2µm	467mm	4µm	492mm
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MGF25.4 LENS100	25.4mm Ø	59.5 (±2%)	100mm @ 121nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 25.4mm diameter x 100mm F.L. @121nm MATERIAL: VUV Grade MgF₂ Diameter: 25.4mm (+0/-0.1mm) Clear Aperture 80% of diameter Edge thickness: 2.0mm Centre Thickness: 3.4mm <i>derived</i> Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 59.9 (test plate) Radius of Curvature 2: Plano Centration Not specified Surface Accuracy Not specified S/D 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>95mm</td></tr><tr><td>200nm</td><td>140mm</td></tr><tr><td>633nm</td><td>159mm</td></tr><tr><td>2µm</td><td>162mm</td></tr><tr><td>4µm</td><td>170mm</td></tr></table>	Effective Focal length		121nm	95mm	200nm	140mm	633nm	159mm	2µm	162mm	4µm	170mm
Effective Focal length																	
121nm	95mm																
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MGF25.4 LENS125	25.4mm Ø	80.482 (±2%)	125mm @ 121nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 25.4mm diameter x 125mm F.L. @121nm MATERIAL: VUV Grade MgF₂ Diameter: 25.4mm (+0/-0.1mm) Clear Aperture 80% of diameter Edge thickness: 2.0mm <i>derived</i> Centre Thickness: 3.0mm Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 80.482 or 80.78 (test plate) Radius of Curvature 2: Plano Centration Not specified Surface Accuracy Not specified S/D 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>125mm</td></tr><tr><td>200nm</td><td>190mm</td></tr><tr><td>633nm</td><td>210mm</td></tr><tr><td>2µm</td><td>215mm</td></tr><tr><td>4µm</td><td>230mm</td></tr></table>	Effective Focal length		121nm	125mm	200nm	190mm	633nm	210mm	2µm	215mm	4µm	230mm
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633nm	210mm																
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MGF25.4 LENS200	25.4mm Ø	123.9 (±2%)	200mm @ 121nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 25.4mm diameter x 200mm F.L. @121nm MATERIAL: VUV Grade MgF₂ Diameter: 25.4mm (+0/-0.1mm) Clear Aperture: 80% of diameter Edge thickness: 2.0mm Centre Thickness: 2.65mm derived Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 123.9 (test plate) Radius of Curvature 2: Plano Centration: Not specified Surface Accuracy: Not specified S/D: 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>200mm</td></tr><tr><td>200nm</td><td>292mm</td></tr><tr><td>633nm</td><td>330mm</td></tr><tr><td>2µm</td><td>337mm</td></tr><tr><td>4µm</td><td>355mm</td></tr></table>	Effective Focal length		121nm	200mm	200nm	292mm	633nm	330mm	2µm	337mm	4µm	355mm
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MGF25.4 LENS75	25.4mm Ø	47.0 (±2%)	75mm @ 118nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 25.4mm diameter x 75mm F.L. @118nm MATERIAL: VUV Grade MgF₂ Diameter: 25.4mm (+0/-0.1mm) Clear Aperture: 80% of diameter Edge thickness: 2.0mm Centre Thickness: 3.75mm derived Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 47.0 (test plate) Radius of Curvature 2: Plano Centration: Not specified Surface Accuracy: Not specified S/D: 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>118nm</td><td>75mm</td></tr><tr><td>200nm</td><td>111mm</td></tr><tr><td>633nm</td><td>125mm</td></tr><tr><td>2µm</td><td>127mm</td></tr><tr><td>4µm</td><td>135mm</td></tr></table>	Effective Focal length		118nm	75mm	200nm	111mm	633nm	125mm	2µm	127mm	4µm	135mm
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MGF40LE NS110	40mm Ø	69.9 (±2%)	110mm @ 121nm	VUV 平凸													
MGF40LE NS115	40mm Ø	72.78 (±2%)	115mm @ 121nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 40mm diameter x 115mm F.L. @121nm MATERIAL: VUV Grade MgF₂ Diameter: 40.0mm (+0/-0.1mm) Clear Aperture: 80% of diameter Edge thickness: 2.0mm Centre Thickness: 4.8mm derived Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 72.78 (test plate) Radius of Curvature 2: Plano Centration: Not specified Surface Accuracy: Not specified S/D: 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>115mm</td></tr><tr><td>200nm</td><td>172mm</td></tr><tr><td>633nm</td><td>193mm</td></tr><tr><td>2µm</td><td>197mm</td></tr><tr><td>4µm</td><td>208mm</td></tr></table>	Effective Focal length		121nm	115mm	200nm	172mm	633nm	193mm	2µm	197mm	4µm	208mm
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MGF40LE NS235	40mm Ø	148.08 (±2%)	235mm @ 121nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 40mm diameter x 235mm F.L. @ 121nm MATERIAL: VUV Grade MgF₂ Diameter: 40.0mm (+0/-0.1mm) Clear Aperture: 80% of diameter Edge thickness: 2.0mm Centre Thickness: 3.5mm <i>derived</i> Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 148.08 (test plate) Radius of Curvature 2: Plano Centration: Not specified Surface Accuracy: Not specified S/D: 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>235mm</td></tr><tr><td>200nm</td><td>350nm</td></tr><tr><td>633nm</td><td>393nm</td></tr><tr><td>2µm</td><td>402nm</td></tr><tr><td>4µm</td><td>424nm</td></tr></table>	Effective Focal length		121nm	235mm	200nm	350nm	633nm	393nm	2µm	402nm	4µm	424nm
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4µm	424nm																
MGF70LE NS300	70mm Ø	188.6 (±2%)	300mm @ 121nm	VUV 平凸	MAGNESIUM FLUORIDE PLANO-CONVEX LENS 70mm diameter x 300mm F.L. @ 121nm MATERIAL: VUV Grade MgF₂ Diameter: 70mm (+0/-0.1mm) Clear Aperture: 80% of diameter Edge thickness: 3.0mm Centre Thickness: 6.5mm Chamfers: approx 0.1mm break-edge Radius of Curvature 1: 188.6mm (test plate) Radius of Curvature 2: Plano Centration: Not specified Surface Accuracy: Not specified S/D: 40/20 Coating: None <table><tr><th colspan="2">Effective Focal length</th></tr><tr><td>121nm</td><td>300mm</td></tr><tr><td>200nm</td><td>444mm</td></tr><tr><td>633nm</td><td>501mm</td></tr><tr><td>2µm</td><td>510mm</td></tr><tr><td>4µm</td><td>540mm</td></tr></table>	Effective Focal length		121nm	300mm	200nm	444mm	633nm	501mm	2µm	510mm	4µm	540mm
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