

## IR 级抛光氟化钡(BaF<sub>2</sub>)平凸正透镜 0.15-12μm 17mm Ø



### 描述

氟化钡能很好应用于光谱组件。氟化钡通常适用于无源 IR 波段 (8~14 μm) 的应用，通常用作热成像的窗片。对于相同厚度，比氟化钙的透射范围进一步延伸到 IR 中大约 1mm。主要用于 IR 应用，并注意到具有 IR 抛光的视窗可能在由低纯度 BaF<sub>2</sub> 晶体制成的 VUV 中具有受限的透射性能。

### 产品型号

BAF17LENS30

应用领域

- 快速闪烁体材料
- 热成像窗片
- 高能物理实验

核心参数

| 工作波长      | 规格尺寸   |
|-----------|--------|
| 0.15~12μm | 17mm Ø |

尺寸图



详细参数

|         |                                 |
|---------|---------------------------------|
| 适射波段范围: | 0.15~12um(注意:IR 级可能在 UV 下的性能受限) |
| 折射率:    | 1.45 @5um(1)                    |
| 反射损耗:   | 6.5% at 5%(2 个表面)               |



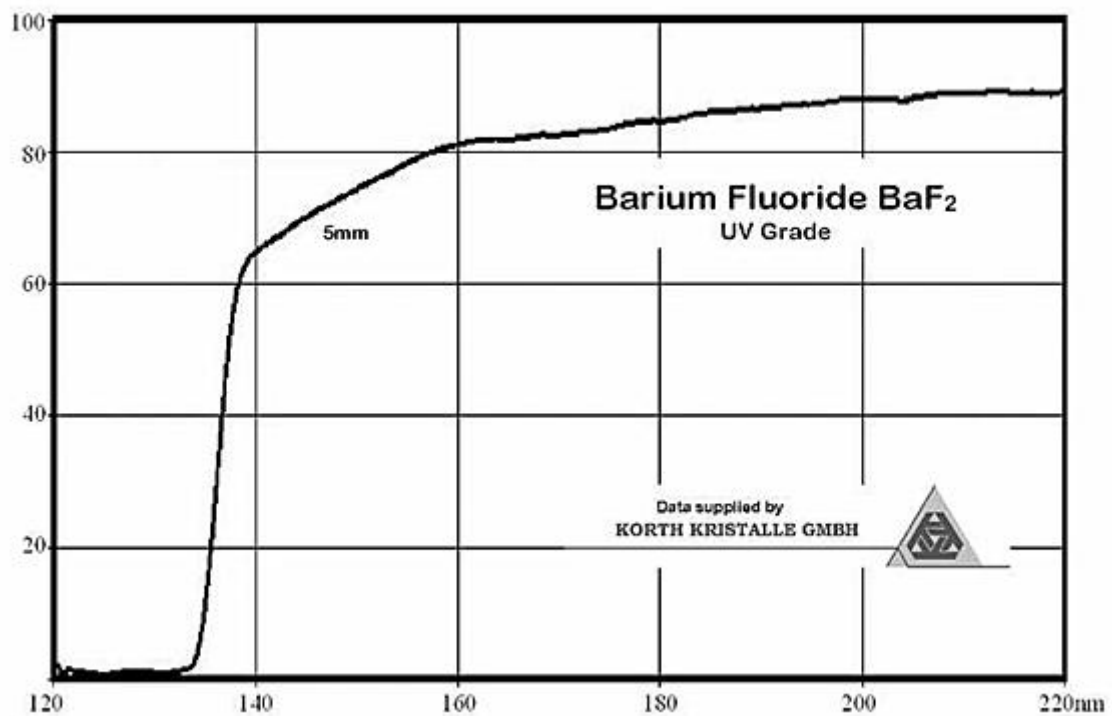
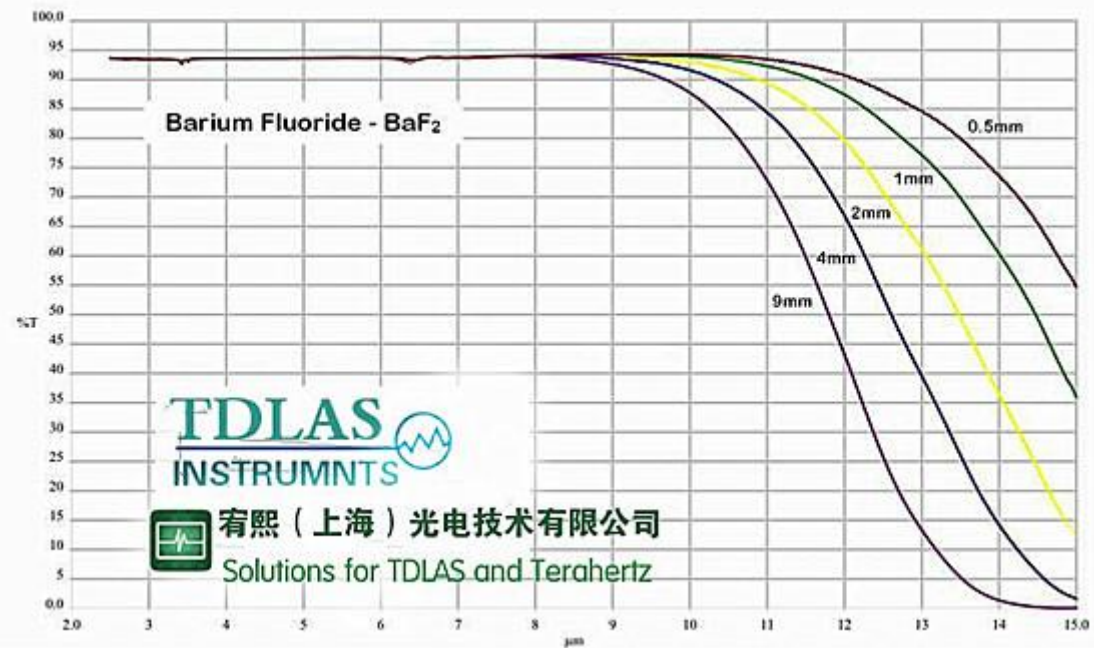
|             |                                              |
|-------------|----------------------------------------------|
| 吸收系数:       | $3.2 \times 10^{-4} \text{cm}^{-1}$ @6um     |
| 吸收峰:        | 47um                                         |
| dn / dT:    | $-15.2 \times 10^{-6} / ^\circ\text{C}$ (2)  |
| dn / du= 0: | 1.95um                                       |
| 密度:         | 4.89g/ cc                                    |
| 熔点:         | 1386°C                                       |
| 导热率:        | $11.72 \text{W m}^{-1} \text{K}^{-1}$ @286K  |
| 热膨胀:        | $18.1 \times 10^{-6} / ^\circ\text{C}$ @273K |
| 硬度:         | Knoop 82 with 500g indenter (4)              |
| 比热容量:       | $410 \text{JKg}^{-1} \text{K}^{-1}$ (3)      |
| 介电常数:       | 7.33 at 1MHz                                 |
| 杨氏模量(E) :   | 53.07GPa (3)                                 |
| 剪切模量(G) :   | 25.4GPa(3)                                   |
| 体积模量(K):    | 56.4GPa                                      |

|         |                                                     |
|---------|-----------------------------------------------------|
| 弹性系数:   | $C_{11} = 89.2$ $C_{12} = 40.0$ $C_{44} = 25.4$ (2) |
| 表观弹性极限: | 26.9MPa (300psi)(4)                                 |
| 泊松比:    | 0.343                                               |
| 溶解性:    | 0.17g /100g water, 23°C                             |
| 分子量:    | 175.36                                              |
| 类型/结构:  | 立方 $\text{CaF}_2$ , $\text{Fm}3\text{m}$ , (111) 裂解 |

### 折射率:(No = Ordinary Ray 普通射线)

| $\mu\text{m}$ | No     | $\mu\text{m}$ | No     | $\mu\text{m}$ | No     |
|---------------|--------|---------------|--------|---------------|--------|
| 0.1408        | 1.8150 | 0.1452        | 1.7820 | 0.1477        | 1.7670 |
| 0.1500        | 1.6780 | 0.2000        | 1.557  | 0.2652        | 1.5122 |
| 0.2803        | 1.5066 | 0.2893        | 1.5039 | 0.2967        | 1.5019 |
| 0.3021        | 1.5004 | 0.3130        | 1.4978 | 0.3254        | 1.4952 |
| 0.3403        | 1.4925 | 0.3466        | 1.4915 | 0.3610        | 1.4894 |

|        |         |        |        |        |        |
|--------|---------|--------|--------|--------|--------|
| 0.3663 | 1.4887  | 0.4046 | 1.4844 | 0.5461 | 1.4759 |
| 0.5893 | 1.4744  | 0.6438 | 1.4730 | 0.6563 | 1.4727 |
| 0.7065 | 1.4718  | 0.8521 | 1.4699 | 0.8944 | 1.4694 |
| 1.0140 | 1.4685  | 1.1287 | 1.4678 | 1.3673 | 1.4667 |
| 1.5295 | 1.4661  | 1.6810 | 1.4656 | 1.7012 | 1.4655 |
| 1.9701 | 1.4647  | 2.3254 | 1.4636 | 2.6738 | 1.4623 |
| 3.2434 | 1.4602  | 3.4220 | 1.4594 | 5.1380 | 1.4501 |
| 5.5490 | 1.44732 | 6.2380 | 1.4422 | 6.6331 | 1.4390 |
| 7.0442 | 1.4353  | 7.2680 | 1.4331 | 9.7240 | 1.4051 |
| 10.346 | 1.3936  |        |        |        |        |



# 订购信息

## 订购信息:

| 订购<br>型号             | 规格        | 曲率                      | 焦<br>距                         | 材料<br>等级 | 参数                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|-----------|-------------------------|--------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BAF1<br>7LEN<br>S30  | 17mm<br>Ø | 14.0<br>(+0.25<br>/0mm) | 30<br>mm<br>@<br>3µ<br>m       | IR<br>平凸 | <b>BARIUM FLUORIDE PLANO-CONVEX IR GRADE LENS</b><br>MATERIAL: Infrared Grade BaF <sub>2</sub><br>Diameter: 17.0mm (+0.1/-0.1mm)<br>Edge thickness: 2.0mm (+0/-0.1mm)<br>Radius of Curvature 1: 14.0 (+0.25/-0.25mm)<br>Radius of Curvature 2: Plano<br>Centre Thickness: 5.0mm nominal<br>S/D: 60/40<br>BACK FOCAL LENGTH: 30mm (+/-5%) @ 3 microns                        |
| BAF2<br>4LEN<br>S400 | 24mm<br>Ø | 134.0;<br>-500          | 40<br>0mm<br>m<br>@<br>5µ<br>m | IR<br>凹凸 | <b>BARIUM FLUORIDE MENISCUS IR GRADE LENS</b><br>Positive Meniscus (MSC)<br>MATERIAL: Infrared Grade BaF <sub>2</sub><br>Diameter: 24.0mm (±0.1mm)<br>Edge thickness: 2.3mm (±0.1mm)<br>Radius of Curvature 1: 134.0mm Test Plate<br>Radius of Curvature 2: -500.0mm Test Plate<br>Centre Thickness: 2.6mm nominal<br>S/D: 40/20<br>FOCAL LENGTH: 400mm (+/-5%) @ 5 microns |

|                       |              |                          |                                |          |                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|--------------|--------------------------|--------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BAF2<br>5.4LE<br>NS25 | 25.4<br>mm Ø | 23.20<br>(+0.25<br>/0mm) | 25<br>mm<br>@<br>3μ<br>m       | UV<br>双凸 | <b>BARIUM FLUORIDE BI-CONVEX IR GRADE LENS</b><br><br>MATERIAL: Infrared Grade BaF <sub>2</sub><br><br>Diameter: 25.4mm (+0.0/-0.1mm)<br>Edge thickness: 2.00mm nominal<br>Radius of Curvature 1: 22.00 (±0.1mm)<br>Radius of Curvature 2: 22.00 (±0.1mm)<br>Centre Thickness: 10.00mm (±0.1mm)<br>S/D: 60/40<br>BACK FOCAL LENGTH: 22mm (+/-5%) @ 3 microns |
|                       |              |                          |                                |          |                                                                                                                                                                                                                                                                                                                                                              |
| BAF3<br>8LEN<br>S100  | 38.0<br>mm Ø | 45.0<br>(+0.25<br>/0mm)  | 10<br>0mm<br>m<br>@<br>5μ<br>m | IR<br>平凸 | <b>BARIUM FLUORIDE PLANO-CONVEX IR GRADE LENS</b><br><br>MATERIAL: Infrared Grade BaF <sub>2</sub><br><br>Diameter: 38.0mm (±0.1mm)<br>Edge thickness: 3.0mm (+0/-0.1mm)<br>Radius of Curvature 1: 45.0 (+0.25/-0mm)<br>Radius of Curvature 2: Plano<br>Centre Thickness: 7.2mm nominal<br>S/D: 60/40<br>FOCAL LENGTH: 100mm (+/-5%) @ 5 microns             |
|                       |              |                          |                                |          |                                                                                                                                                                                                                                                                                                                                                              |