

TECHSPEC<sup>®</sup> 50mm Dia. x 3mm Thick, BBAR (2000-5000nm) Coated Barium Fluoride Window



Stock **#23-531** **3 In Stock**

-

1

+

C\$1,038<sup>.80</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-10       | C\$1,038.80 each              |
| Qty 11-25      | C\$934.92 each                |
| Qty 26-49      | C\$881.50 each                |
| Need More?     | <a href="#">Request Quote</a> |

Product Downloads

SPECIFICATIONS

General

Type:  
Protective Window

Physical & Mechanical Properties

|                      |                          |
|----------------------|--------------------------|
| Protective as needed | Bevel:                   |
| 90.00                | Clear Aperture (%):      |
| 45.00                | Clear Aperture CA (mm):  |
| 50.00 +0.0/-0.1      | Diameter (mm):           |
| 3.00 ±0.1            | Thickness (mm):          |
| Fine Ground          | Edges:                   |
| 82.00                | Knoop Hardness (kg/mm²): |
| <3                   | Parallelism (arcmin):    |
| 0.34                 | Poisson's Ratio:         |
| 53                   | Young's Modulus (GPa):   |

### Optical Properties

|                                                                                                                       |                                        |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 81.78                                                                                                                 | Abbe Number (V <sub>d</sub> ):         |
| Random                                                                                                                | Axis Orientation:                      |
| BBAR (2000-5000nm)                                                                                                    | Coating:                               |
| R <sub>avg</sub> <1.5% @ 2000-5000nm<br>R <sub>abs</sub> <3.0% @ 2000-5000nm<br>R <sub>avg</sub> <1.75% @ 2000-4000nm | Coating Specification:                 |
| 1.48                                                                                                                  | Index of Refraction (n <sub>d</sub> ): |
| Barium Fluoride (BaF <sub>2</sub> )                                                                                   | Substrate:                             |
| λ/2                                                                                                                   | Surface Flatness (P-V):                |
| 60-40                                                                                                                 | Surface Quality:                       |
| 2000 - 5000                                                                                                           | Wavelength Range (nm):                 |

### Material Properties

|      |                                                              |
|------|--------------------------------------------------------------|
| 18.1 | Coefficient of Thermal Expansion CTE (10 <sup>-6</sup> /°C): |
| 4.89 | Density (g/cm³):                                             |

### Regulatory Compliance

|           |                             |
|-----------|-----------------------------|
| Compliant | RoHS 2015:                  |
| View      | Certificate of Conformance: |
| Compliant | Reach 235:                  |

## PRODUCT DETAILS

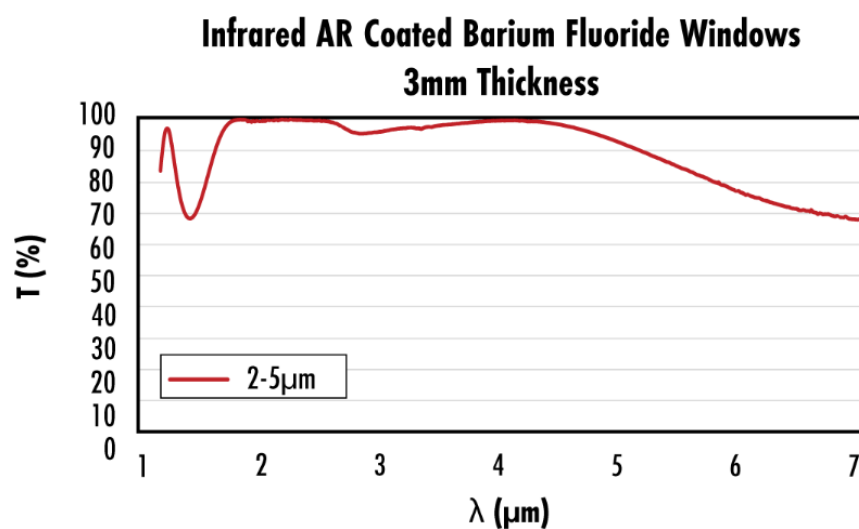
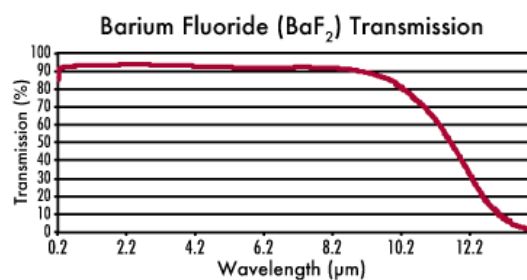
- Excellent Transmission from 200nm - 12µm
- Resistant to High-Energy Radiation
- Provide High Transmission without AR Coatings

TECHSPEC® Barium Fluoride (BaF<sub>2</sub>) Windows can be used in a variety of applications, such as infrared spectroscopy, due to their wide broadband transmission that extends from the deep ultraviolet to the long-wave infrared. Barium fluoride's low index of refraction of 1.48 provides high transmission without the need for anti-reflection coatings. Barium fluoride windows can be used up to 800°C in a dry environment, but prolonged exposure to moisture can degrade transmission in the ultraviolet range. While barium fluoride windows are less resistant to water than calcium fluoride, BaF<sub>2</sub> windows are the most resistant optical fluoride to high-energy radiation, but feature lower UV transmittance. BaF<sub>2</sub> has a Knoop hardness of 82.

**Note:** These optical windows are very sensitive to thermal shock.

Barium fluoride is a fast scintillator and can be used to detect X-rays, gamma rays, or other high energy particles such as 511 keV gamma photons in Positron Emission Tomography (PET). BaF<sub>2</sub> can also be used to detect high-energy neutrons and separate them from simultaneously occurring gamma photons using pulse shape discrimination techniques.

## TECHNICAL INFORMATION



## SPECIAL HANDLING

These optics require special handling to avoid damage and ensure long-term performance. Proper handling, cleaning, and storage are essential to maintain optical quality. Explore our [Optics Cleaning Resources](#) for step-by-step guides and best practices. For personalized assistance, [Email us](#) or [Chat](#) with our technical support team.



Component Handling Tools

## COMPATIBLE MOUNTS