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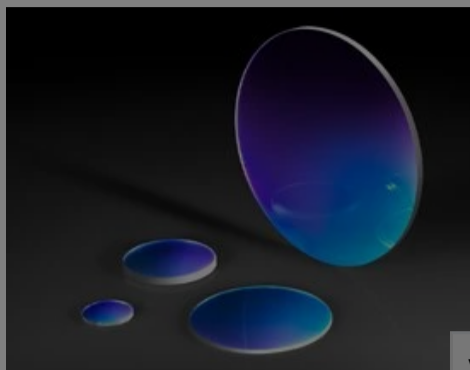
**TECHSPEC®**

50.8mm Dia., 3.18mm Thick

Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.

Select Your Country/Region: European Union

Submit



Stock #37-704 **8 In Stock**

1

€430<sup>.00</sup>

ADD TO CART

Volume Pricing	
Qty 1-24	€430,00 each
Qty 25-50	€322,00 each
Qty 51-99	€315,00 each
Need More?	<a href="#">Request Quote</a>

Product Downloads	
STEP:step	PDF Drawing:pdf
IGES:igs	eDrawing:eprt
EO Spec Sheet	<a href="#">Download All</a>

Prices shown are exclusive of VAT/local taxes

### General

**Type:** Protective Window

**Type of Window:** Crystal

### Physical & Mechanical Properties

**Clear Aperture CA (mm):** 45.72

**Diameter (mm):** 50.80 ±0.05

**Thickness (mm):** 3.18 ±0.05

**Parallelism (arcmin):** ≤3.5

**Bevel:** Protective as needed

**Clear Aperture (%):** ≥90

**Edges:** Fine Ground

**Poisson's Ratio:** 0.27

**Young's Modulus (GPa):** 435

**Knoop Hardness (kg/mm<sup>2</sup>):** 1,900.00

### Optical Properties

**Coating:** VIS-NIR (400-1000nm)

**Substrate:** Sapphire (Al<sub>2</sub>O<sub>3</sub>)

**Index of Refraction (n<sub>d</sub>):** 1.77

**Surface Quality:** 80-50

**Abbe Number (v<sub>d</sub>):** 72.24

**Surface Roughness (µm):** 0.1 per Inch

**Birefringence (n<sub>o</sub>-n<sub>e</sub>):** 0.008 for Visible Light Orthogonal to Optical Axis

**Axis Orientation:** Random

**Coating Specification:**  $R_{avg} \leq 0.25\%$  @ 880nm  
 $R_{avg} \leq 1.25\%$  @ 400 - 870nm  
 $R_{avg} \leq 1.25\%$  @ 890 - 1000nm

**Wavelength Range (nm):** 400 - 1000

**Surface Flatness (P-V):**  $2\lambda$  (typical)

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## Material Properties

**Density (g/cm<sup>3</sup>):** 3.97

**Coefficient of Thermal Expansion CTE (10<sup>-6</sup>/°C):** 5.4 (Parallel to C-Axis)  
4.3 (Perpendicular to C-Axis)

## Regulatory Compliance

RoHS 2015: **Compliant**

Certificate of Conformance: **View**

Reach 235: **Compliant**

## Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

## Product Details

- Features Extreme Surface Hardness Chemical Resistance
- Transmits Wavelengths Ranging From UV to Mid-Infrared
- Thinner and Stronger than Standard Glass Windows
- Anti-Reflection Coating Options Covering 350 - 5000nm Available

TECHSPEC® Sapphire Windows are manufactured from single crystal sapphire, making them ideal for demanding applications (such as 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 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 from UV to mid-infrared or 330 - 5500nm when uncoated. TECHSPEC® Sapphire Windows are available with anti-reflection (AR) coatings to improve performance in the visible, NIR, and IR spectra with coating options covering 350 - 5000nm.

## Technical Information

## Coating Curves

VIS-NIR (400-1000nm)



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🔍 SHIFT + SELECT an area on CURVE to zoom

Please note that coating performance outside each product's specified design range is theoretical and may vary.

### Related Products



Cage System Optical Lens Mounts

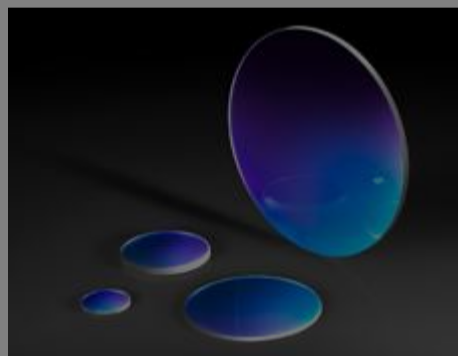


C, S, and T-Mount Circular Optic Mounts



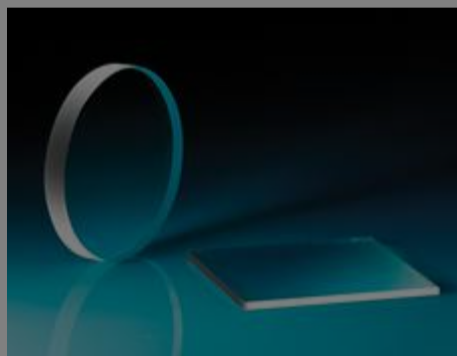
PUROSOL™ Optical Cleaner

### Frequently Purchased Together



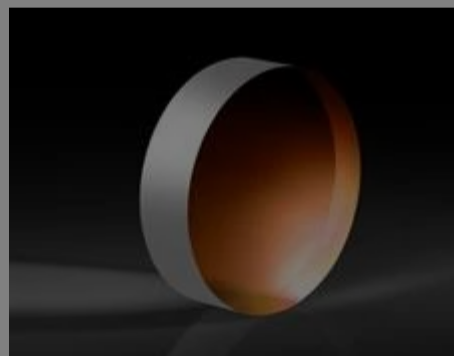
#45-817 - 50.8mm Dia., 3.18mm Thick, Uncoated, Sapphire Window  
€374,00

Qty



#46-100 - 50.8mm Dia. x 3mm High Efficiency Window  
€28,50

Qty



#84-458 - 50mm Dia., 5mm Thick, VIS-NIR Coated  $\lambda/10$  Fused Silica Window  
€323,00

Qty



#36-348 - 3mm FL f/2.5, Rugged Blue Series M12 Lens  
€101,00

Qty

### Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
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MORE+



50.8mm Optic Dia., Optic Mount

Fixed

















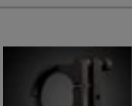



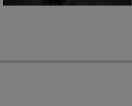











#64-569

€49,25  
Request Quote

12 In Stock





1



	Title	Type	Compare	Stock Number	Price	Buy
<a href="#">MORE+</a>	 9.5 - 73.0mm Optic Dia., Three-Screw Adjustable Ring Mount				€83,00	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Kinematic Mount					5 In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 10.0 - 60.0mm Optic Height, Metric Bar-Type Optic Holder	Fixed		#55-530	€108,00 Request Quote	CONTACT US <input type="text" value="1"/> 
<a href="#">MORE+</a>	 19.5 - 108.0mm Optic Dia., Three-Screw Adjustable Ring Mount	Fixed		#03-670	€114,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 7.0 - 67.0 Optic Height, English Bar-Type Optic Holder	Fixed		#03-669	€116,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Optical Cell Assembly	Fixed		#36-465 CLEARANCE	€119,95 Request Quote	2 In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 8.0 - 118.0 Optic Height, English Bar-Type Optic Holder	Fixed		#03-666	€120,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Kinematic Mount, 2-Screws	Adjustable - Tip-Tilt		#58-852	€135,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Kinematic Mount, 3-Screws	Adjustable - Tip-Tilt		#58-855	€157,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Stainless Steel Kinematic Mount, 2-Screws	Adjustable - Tip-Tilt		#26-816	€246,00 Request Quote	12 In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Stainless Steel Kinematic Mount, 3-Screws	Adjustable - Tip-Tilt		#26-819	€268,00 Request Quote	CONTACT US <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., X-Y Translating Optic Mount	Adjustable - Linear (XY)		#62-957	€308,00 Request Quote	3 In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Kinematic Mirror Mount	Adjustable - Tip-Tilt		#55-005	€361,00 Request Quote	6 In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Kinematic Mirror Mount with Micrometer	Adjustable - Tip-Tilt		#56-326	€387,00 Request Quote	CONTACT US <input type="text" value="1"/> 
<a href="#">MORE+</a>	 5.0 - 100.0mm Optic Dia., Self-Centering Jaw Clamp	Fixed		#16-078	€410,00 Request Quote	CONTACT US <input type="text" value="1"/> 
<a href="#">MORE+</a>	 50.0/50.8mm Optic Dia., Precision Gimbal Mount	Adjustable - Gimbal		#55-000	€510,00 Request Quote	7 In Stock <input type="text" value="1"/> 

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<a href="#">MORE+</a> 	50.0/50.8mm Optic Dia., X Translating Mount				€605,00	20+ In Stock <input type="text" value="1"/> 
<a href="#">MORE+</a> 	50.0/50.8mm Optic Dia., Optical Mou					10 In Stock <input type="text" value="1"/> 

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Check out our full selection of mounts [here](#).

# Resources

## Media Type

- Application Note
- Technical Tool
- Video
- Glossary
- FAQ

**APPLICATION NOTE**

### Anti-Reflection (AR) Coatings

**APPLICATION NOTE**

### An Introduction to Optical Coatings

**TECHNICAL TOOL**

### Beam Displacement Calculator

**APPLICATION NOTE**

### Understanding Optical Windows

**VIDEO**

### Optical Windows Review

**APPLICATION NOTE**

### Optical Glass

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