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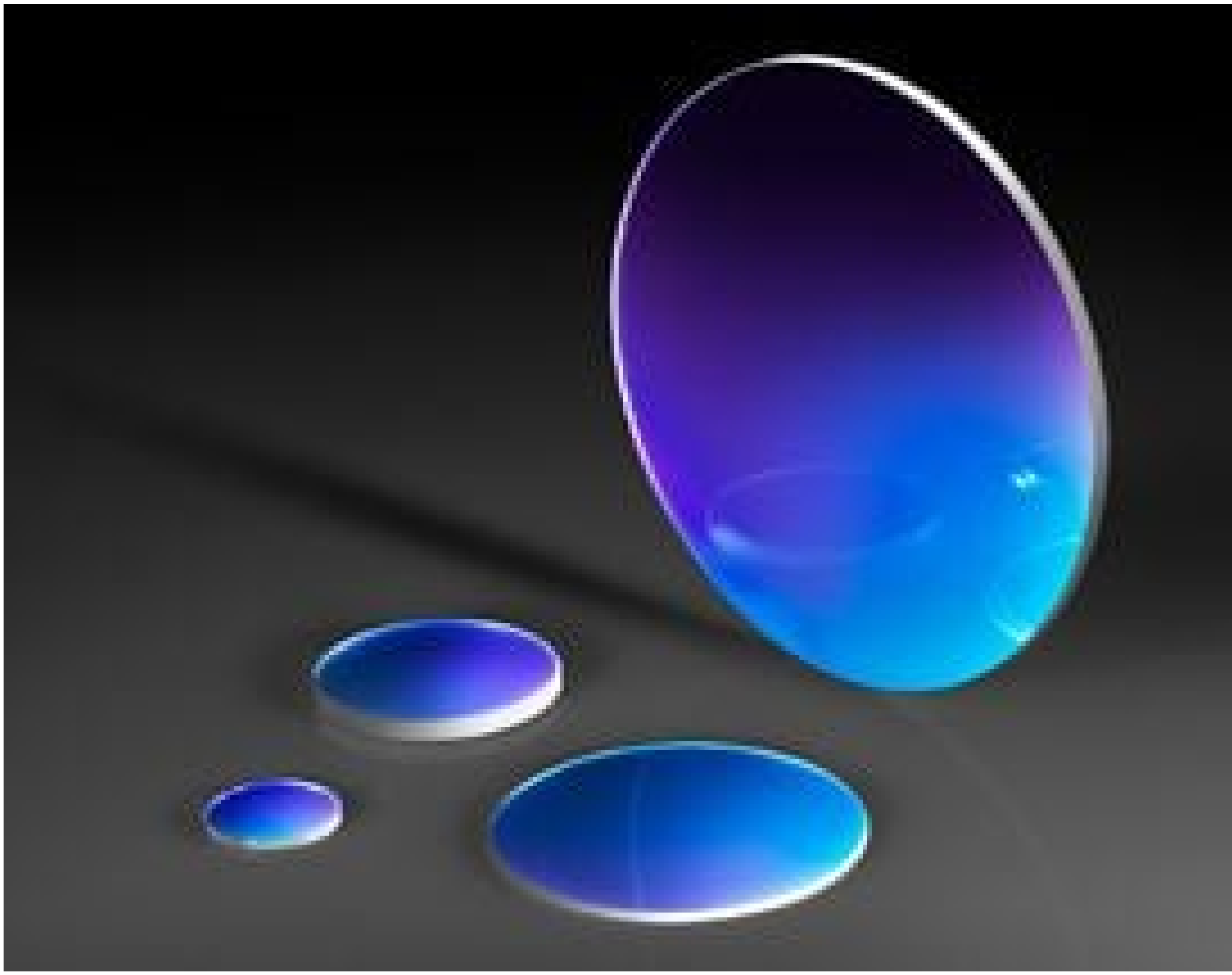
TECHSPEC® 12.7mm Dia., 3.18mm Thick, NIR II AR Coated Sapphire Window



Stock **#39-263** **1 In Stock**

- 1 + **A$116**.00

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Volume Pricing	
Qty 1-24	**A$116.00** each
Qty 25-50	**A$89.00** each
Qty 51-99	**A$88.00** each
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General

Type:

Protective Window

Physical & Mechanical Properties

Clear Aperture CA (mm):

11.43

Diameter (mm):

12.70 ±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^2):
1,900.00

Optical Properties

Coating:
NIR II (750-1550nm)

Substrate:
Sapphire (Al_2O_3)

Index of Refraction (n_d):
1.77

Surface Quality:
80-50

Abbe Number (v_d):
72.24

Surface Roughness (µm):
0.1 per Inch

Birefringence (n_o-n_e):
0.008 for Visible Light Orthogonal to Optical Axis

Axis Orientation:
Random

Coating Specification:
R_{abs} ≤1.5% @ 750 - 800nm
R_{abs} ≤1.0% @ 800 - 1550nm
R_{avg} ≤0.7% @ 750 - 1550nm

Wavelength Range (nm):
750 - 1550

Surface Flatness (P-V):
2λ (typical)

Material Properties

Density (g/cm^3):
3.97

Coefficient of Thermal Expansion CTE (10^{-6}/°C):
5.4 (Parallel to C-Axis)
4.3 (Perpendicular to C-Axis)

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

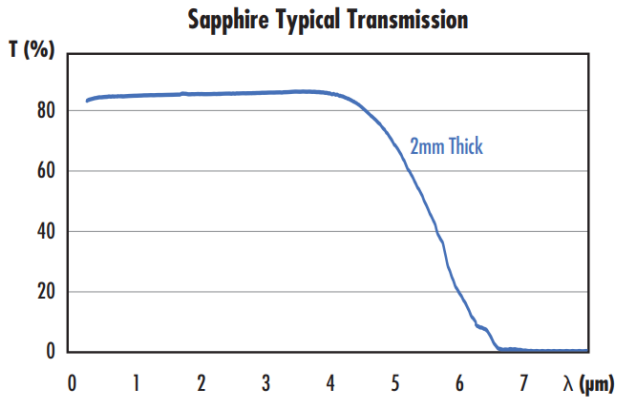
Reach 235:
Compliant

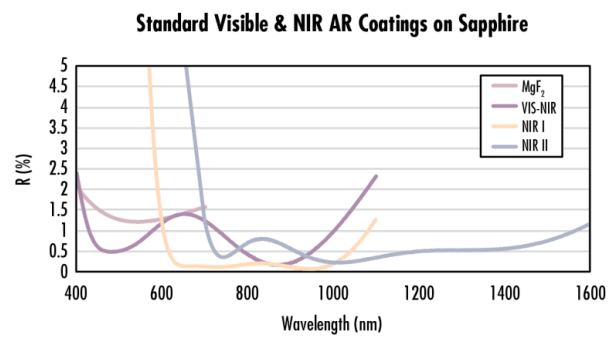
Product Details

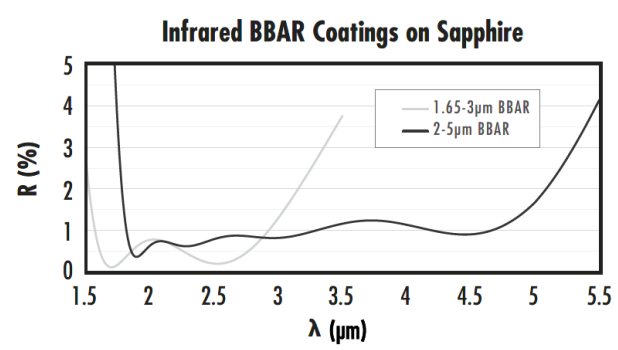
- Features Extreme Surface Hardness Chemical Resistance
- Transmits Wavelengths Ranging From UV to Mid-Infrared
- Thinner and Stronger than Standard Glass Windows
- Anti-Reflection Coating Options Covering 350 - 5000nm Available

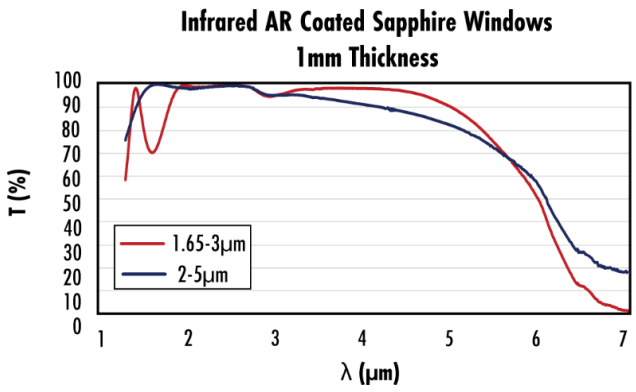
TECHSPEC® Sapphire Windows are manufactured from single crystal sapphire, making them ideal for demanding applications (such as laser systems) because of their extreme surface hardness, high thermal conductivity, high dielectric constant and resistance to common chemical acids and alkalis. Sapphire is 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 (Al2O3) 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









Custom

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.**

Compatible Mounts

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