

[See all 164 Products in Family](#)

**TECHSPEC® 50mm Dia. x 100mm FL, NIR I Coated, Double-Convex Lens**



Stock **#49-509** **4 In Stock**

[Other Coating Options](#)

1 MRP ₹7,567

Price inclusive of all taxes

**ADD TO CART**

Volume Pricing	
Qty 1-9	₹7,567 each
Qty 10-24	₹6,810 each
Qty 25-99	₹6,053 each
Need More?	<a href="#">Request Quote</a>

Product Downloads

**General**

Double-Convex Lens **Type:**

**Physical & Mechanical Properties**

**Diameter (mm):**

50.00 +0.0/-0.025

Centering (arcmin):  
<1

Bevel:  
Protective as needed

Center Thickness CT (mm):  
10.00

Center Thickness Tolerance (mm):  
±0.10

Edge Thickness ET (mm):  
3.76

Clear Aperture CA (mm):  
49.00

## Optical Properties

Back Focal Length BFL (mm):  
96.65

Effective Focal Length EFL (mm):  
100.00

Coating:  
NIR I (600-1050nm)

Coating Specification:  
 $R_{avg} \leq 0.5\%$  @ 600 - 1050nm

Substrate:   
N-BK7

Surface Quality:  
40-20

Power (P-V) @ 632.8nm:  
1.5λ

Irregularity (P-V) @ 632.8nm:  
λ/4

Radius  $R_1=R_2$  (mm):  
101.63

f#:  
2.00

Focal Length Specification Wavelength (nm):  
587.6

Numerical Aperture NA:  
0.25

Wavelength Range (nm):  
600 - 1050

Damage Threshold, By Design:   
7 J/cm<sup>2</sup> @ 1064nm, 10ns

## Regulatory Compliance

RoHS 2015:  
Compliant

Certificate of Conformance:  
[View](#)

Reach 235:  
Compliant

Country of Origin:  
Japan

Imported By:  
Edmund Optics India Private Limited  
267, Greystone Building, Second Floor,  
6th Cross Rd, Binnamangala,  
Stage 1, Indiranagar, Bengaluru,  
Karnataka, India 560038  
Phone: +91- 80-6845 0000

## 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](#).

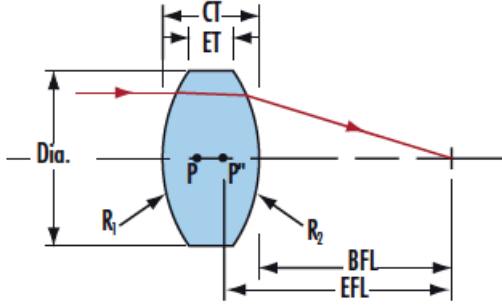
## Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available

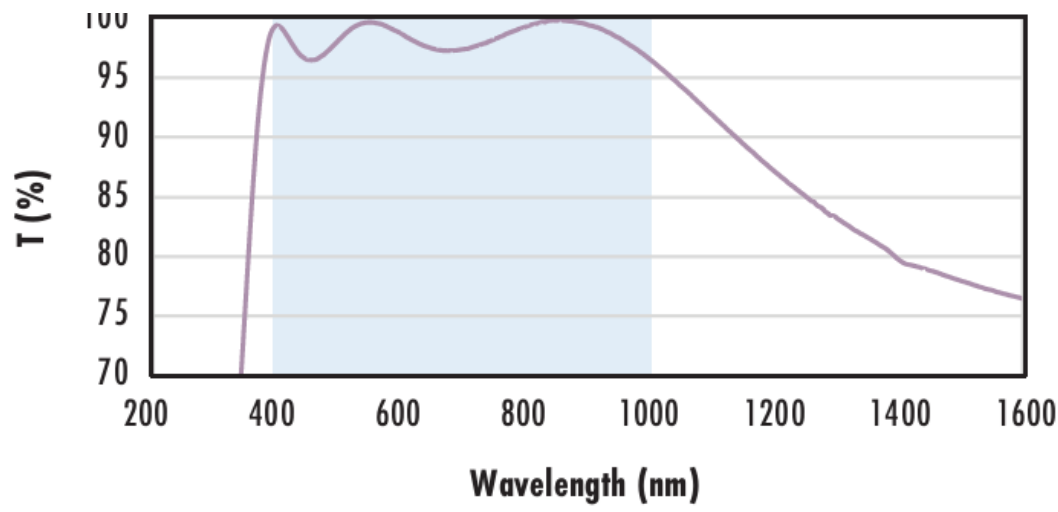
Other Coating Options Available: **Uncoated**, **MgF<sub>2</sub>**, **VIS 0°**, **NIR II**, **VIS-EXT**, **VIS-NIR**, and **YAG-BBAR**

TECHSPEC® NIR I Coated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) between 0.2 and 5. At a conjugate ratio of 1, aberrations such as spherical aberration, chromatic aberration, coma, and distortion are minimized or cancelled due to the symmetric lens design. TECHSPEC® NIR I Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

## Technical Information



N-BK7	
<p style="text-align: center;"><b>Uncoated N-BK7 Typical Transmission</b></p>	<p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</p> <p style="text-align: center;"><a href="#">Click Here to Download Data</a></p>
<p style="text-align: center;"><b>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</b></p>	<p>Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p style="text-align: center;"><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm (N-BK7)}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p style="text-align: center;"><a href="#">Click Here to Download Data</a></p>
<p style="text-align: center;"><b>N-BK7 with VIS-EXT Coating Typical Transmission</b></p>	<p>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p style="text-align: center;"><math>R_{avg} \leq 0.5\% @ 350 - 700\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p style="text-align: center;"><a href="#">Click Here to Download Data</a></p>
<p style="text-align: center;"><b>N-BK7 with VIS-NIR Coating Typical Transmission</b></p>	



Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{abs} \leq 0.25\% @ 880\text{nm}$$

$$R_{avg} \leq 1.25\% @ 400 - 870\text{nm}$$

$$R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

**N-BK7 with VIS 0° Coating  
Typical Transmission**



Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

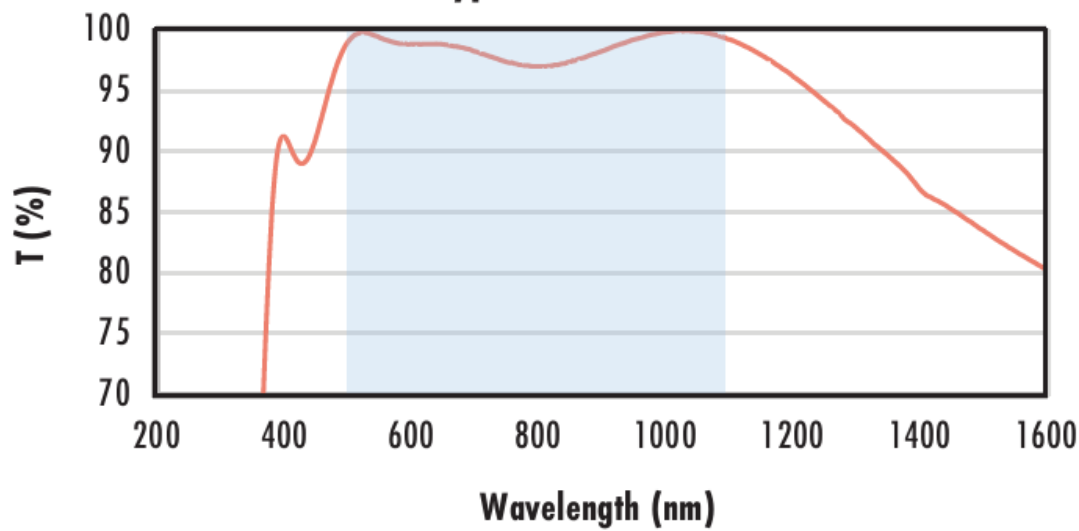
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

**N-BK7 with YAG-BBAR Coating  
Typical Transmission**



Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{abs} \leq 0.25\% @ 532\text{nm}$$

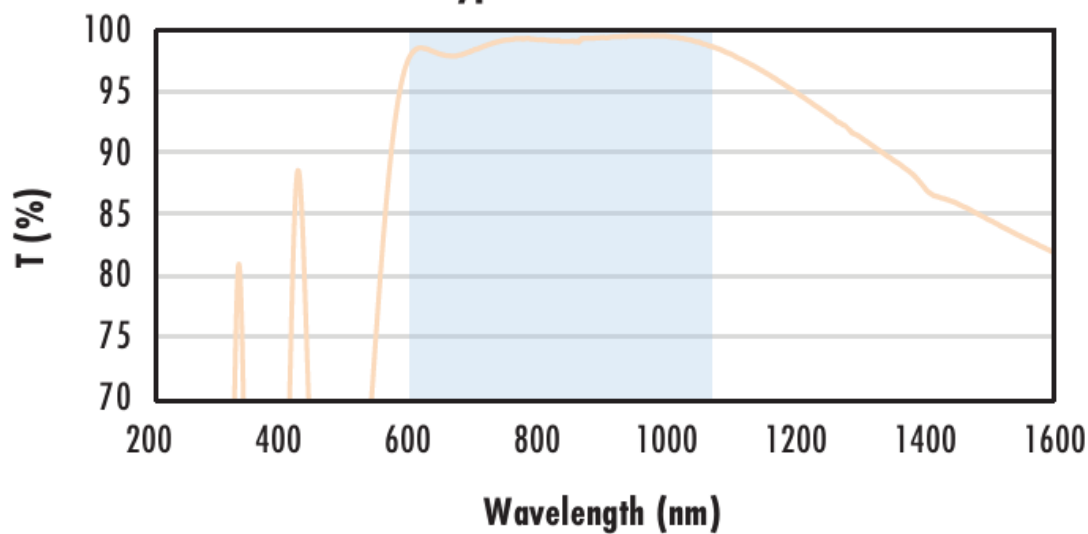
$$R_{abs} \leq 0.25\% @ 1064\text{nm}$$

$$R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

**N-BK7 with NIR I Coating  
Typical Transmission**



Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

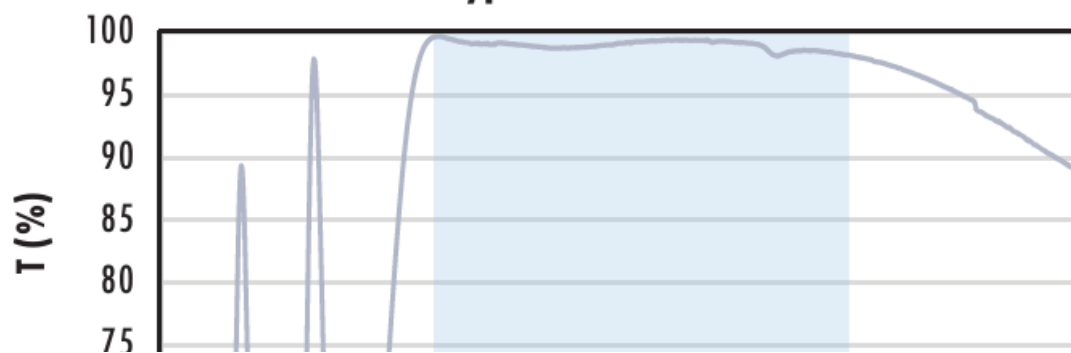
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

**N-BK7 with NIR II Coating  
Typical Transmission**



Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

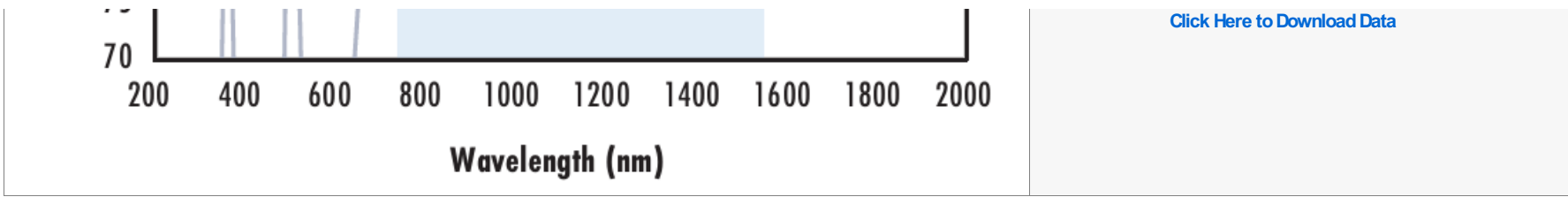
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{abs} \leq 1.5\% @ 750 - 800\text{nm}$$

$$R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}$$

$$R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}$$

Data outside this range is not guaranteed and is for reference only.



**Compatible Mounts**

;