

TECHSPEC[®] 50mm Dia. x 150mm FL, MgF₂ Coated, Double-Convex Lens



Stock **#32-983** [CONTACT US](#)

[Other Coating Options](#)

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+

A\$106⁴⁰

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Volume Pricing	
Qty 1-9	A\$106.40 each
Qty 10-24	A\$96.00 each
Qty 25-99	A\$84.80 each
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Product Downloads

General

Type:
Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):
50.00 +0.0/-0.025

<1	Centering (arcmin):
Protective as needed	Bevel:
9.00	Center Thickness CT (mm):
±0.10	Center Thickness Tolerance (mm):
4.90	Edge Thickness ET (mm):
49.00	Clear Aperture CA (mm):

Optical Properties

147.00	Back Focal Length BFL (mm):
150.00	Effective Focal Length EFL (mm):
MgF ₂ (400-700nm)	Coating:
R _{avg} ≤1.75% @ 400 - 700nm	Coating Specification:
N-BK7	Substrate: ☐
40-20	Surface Quality:
1.5λ	Power (P-V) @ 632.8nm:
λ/4	Irregularity (P-V) @ 632.8nm:
153.49	Radius R ₁ =R ₂ (mm):
3.00	f/#:
587.6	Focal Length Specification Wavelength (nm):
±1	Focal Length Tolerance (%):
0.17	Numerical Aperture NA:
400 - 700	Wavelength Range (nm):
10 J/cm ² @ 532nm, 10ns	Damage Threshold, By Design: ☐

Regulatory Compliance

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

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](#).

Product Details

- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Minimize Aberrations Including Spherical and Coma
- [UV Fused Silica DCX Lenses](#) Available
- Other Coating Options Available: [Uncoated](#), [VIS 0°](#), [NIR I](#), [NIR II](#), [VIS-EXT](#), [VIS-NIR](#), and [YAG-BBAR](#)

TECHSPEC® MgF₂ 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® MgF₂ Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

Technical Information



N-BK7

Uncoated N-BK7 Typical Transmission



Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.

[Click Here to Download Data](#)

N-BK7 with MgF₂ Coating
Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with MgF₂ (400-700nm) coating at 0° AOI.

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

$$R_{avg} \leq 1.75\% \text{ @ } 400 - 700\text{nm (N-BK7)}$$

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

[Click Here to Download Data](#)

N-BK7 with VIS-EXT Coating
Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

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

$$R_{avg} \leq 0.5\% \text{ @ } 350 - 700\text{nm}$$

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

[Click Here to Download Data](#)

N-BK7 with VIS-NIR Coating
Typical Transmission



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:

$$\begin{aligned} R_{abs} &\leq 0.25\% \text{ @ } 880\text{nm} \\ R_{avg} &\leq 1.25\% \text{ @ } 400 - 870\text{nm} \\ R_{avg} &\leq 1.25\% \text{ @ } 890 - 1000\text{nm} \end{aligned}$$

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. Click Here to Download Data

Coating Curves

Compatible Mounts

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