

TECHSPEC[®] 50.0mm Dia. x 175.0mm FL, VIS-NIR Coated, Plano-Convex Lens



Stock **#47-394** **1 In Stock**

☐ [Other Coating Options](#)

-

1

+

A\$124^{.80}

ADD TO CART

Volume Pricing	
Qty 1-9	A\$124.80 each
Qty 10-24	A\$112.00 each
Qty 25-49	A\$100.00 each
Need More?	Request Quote

Product Downloads

General

Type:
Plano-Convex Lens

Physical & Mechanical Properties

Diameter (mm):
50.00 +0.0/-0.025

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

Optical Properties

175.00 @587.6nm	Effective Focal Length EFL (mm):
169.05	Back Focal Length BFL (mm):
VIS-NIR (400-1000nm)	Coating:
R _{abs} ≤0.25% @ 880nm R _{avg} ≤1.25% @ 400 - 870nm R _{avg} ≤1.25% @ 890 - 1000nm	Coating Specification:
N-BK7	Substrate: ☐
40-20	Surface Quality:
1.5λ	Power (P-V) @ 632.8nm:
λ/4	Irregularity (P-V) @ 632.8nm:
±1	Focal Length Tolerance (%):
90.44	Radius R ₁ (mm):
3.5	f/#:
0.14	Numerical Aperture NA:
400 - 1000	Wavelength Range (nm):
5 J/cm² @ 532nm, 10ns	Damage Threshold, By Design: ☐

Regulatory Compliance

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

Product Details

- AR Coated to Provide <1.25% Reflectance per Surface for 400 - 1000nm
- <0.25% Reflectance @ 880nm
- Designed for 0° Angle of Incidence
- Various PCX Coating Options: [Uncoated](#), [MgF₂](#), [VIS 0°](#), [NIR I](#), [NIR II](#), [VIS-EXT](#), and [YAG-BBAR](#)

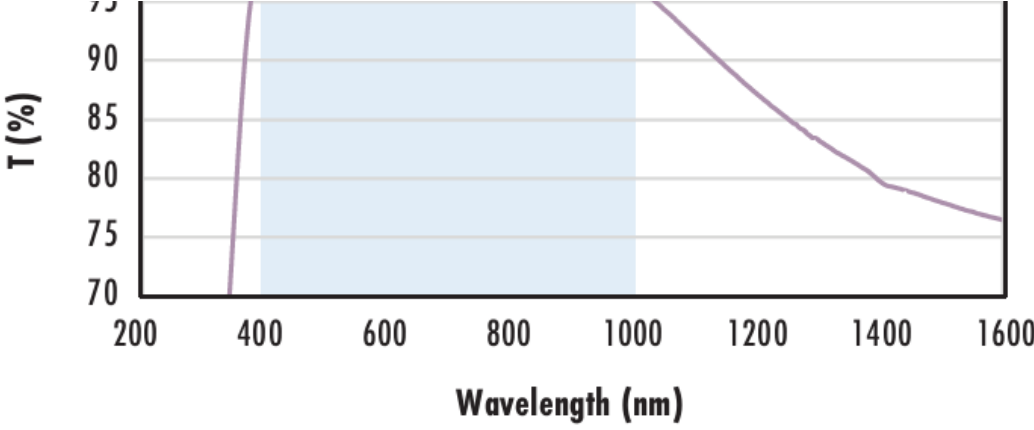
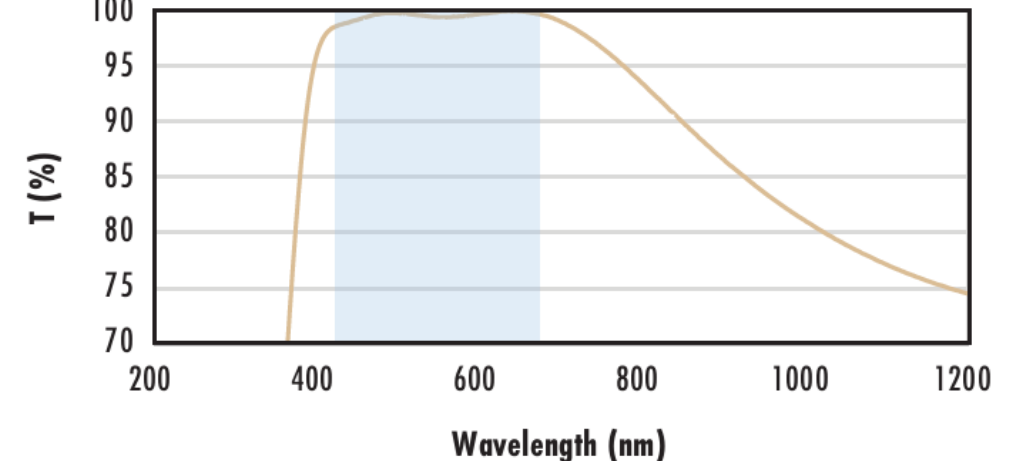
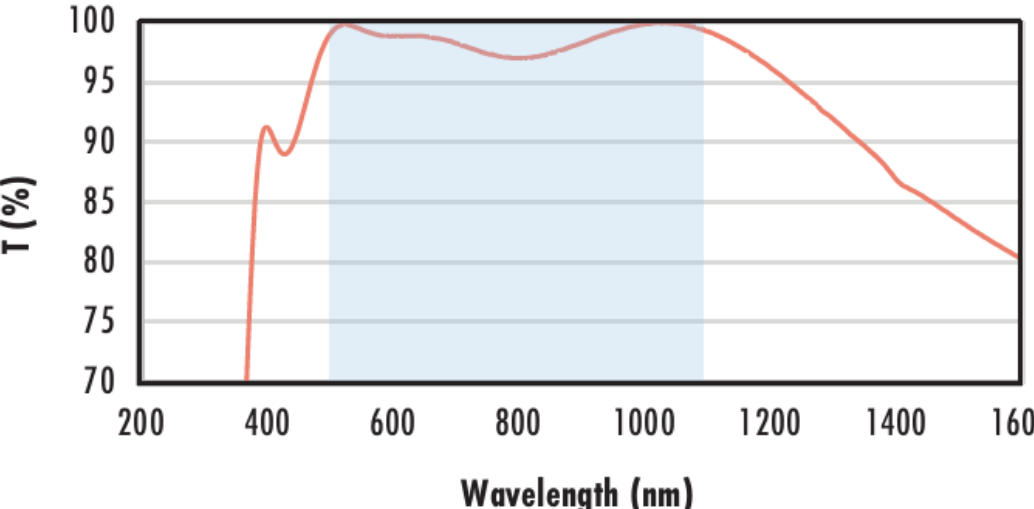
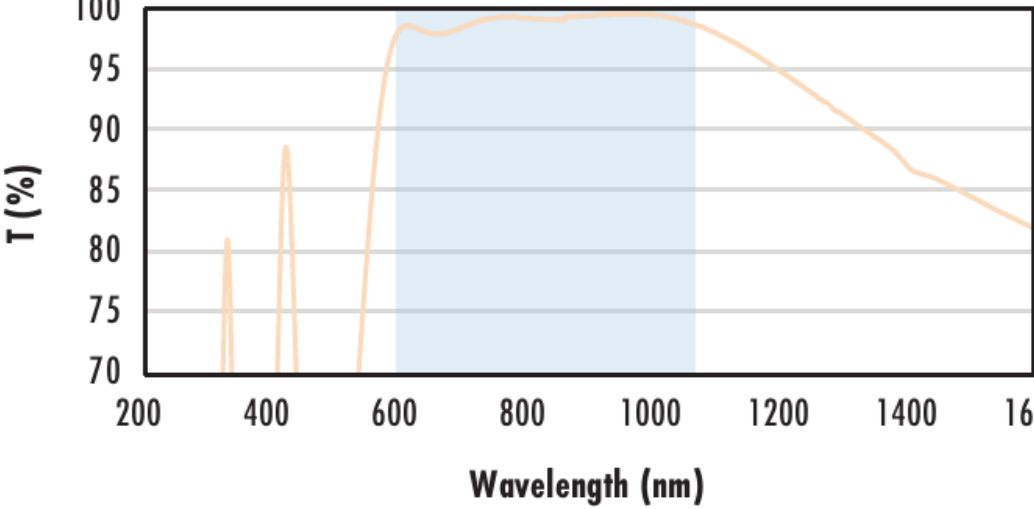
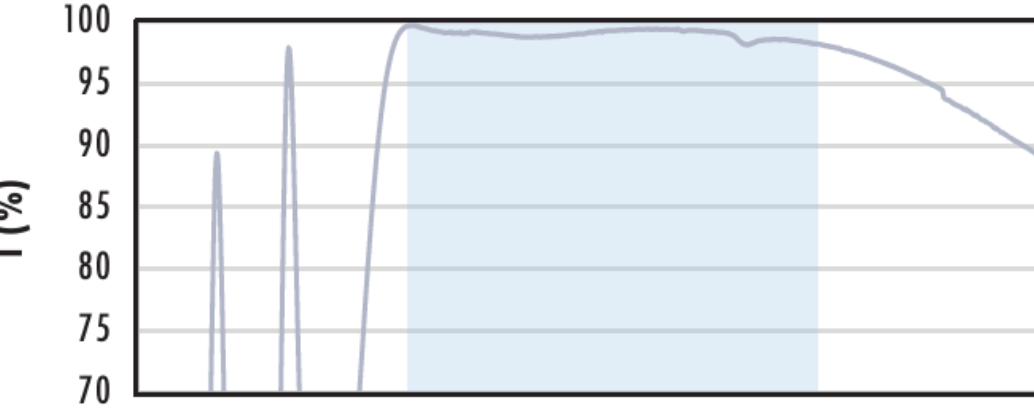
TECHSPEC® VIS-NIR Coated Plano-Convex (PCX) Lenses have a positive focal length, making them ideal for collecting and focusing light in imaging applications. They are also useful in a variety of applications involving emitters, detectors, lasers, and fiber optics. Plano-Convex lenses are ideal for a multitude of optics and photonics applications, including biotech instruments such as DNA sequencers and polymerase chain reaction (PCR) testing platforms. TECHSPEC® VIS-NIR Coated Plano-Convex (PCX) Lenses are available in a wide variety of diameters and focal lengths. Identical designs of these PCX lenses are also offered [uncoated](#) or with broadband anti-reflective (BBAR) coatings, which include [MgF₂](#), [VIS 0°](#), [NIR I](#), [NIR II](#), [VIS-EXT](#), and [YAG-BBAR](#).

These coated lenses are optimized for a wide range of optics and photonics applications, including biotech instruments such as DNA sequencers and polymerase chain reaction (PCR) testing platforms.

Technical Information



Uncoated N-BK7 Typical Transmission <table border="1"><caption>Approximate data for Uncoated N-BK7 Typical Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>300</td><td>70</td></tr><tr><td>400</td><td>92</td></tr><tr><td>600</td><td>92</td></tr><tr><td>800</td><td>92</td></tr><tr><td>1000</td><td>92</td></tr><tr><td>1200</td><td>92</td></tr><tr><td>1400</td><td>92</td></tr><tr><td>1600</td><td>92</td></tr><tr><td>1800</td><td>92</td></tr><tr><td>2000</td><td>91</td></tr><tr><td>2200</td><td>88</td></tr></tbody></table>		Wavelength (nm)	Transmission T (%)	300	70	400	92	600	92	800	92	1000	92	1200	92	1400	92	1600	92	1800	92	2000	91	2200	88	Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra. Click Here to Download Data
Wavelength (nm)	Transmission T (%)																									
300	70																									
400	92																									
600	92																									
800	92																									
1000	92																									
1200	92																									
1400	92																									
1600	92																									
1800	92																									
2000	91																									
2200	88																									
N-BK7 with MgF₂ Coating Typical Transmission <table border="1"><caption>Approximate data for N-BK7 with MgF₂ Coating Typical Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>300</td><td>70</td></tr><tr><td>400</td><td>98</td></tr><tr><td>600</td><td>98</td></tr><tr><td>800</td><td>97</td></tr><tr><td>1000</td><td>96</td></tr><tr><td>1200</td><td>95</td></tr><tr><td>1400</td><td>94</td></tr><tr><td>1600</td><td>94</td></tr><tr><td>1800</td><td>93</td></tr><tr><td>2000</td><td>92</td></tr><tr><td>2200</td><td>90</td></tr></tbody></table>		Wavelength (nm)	Transmission T (%)	300	70	400	98	600	98	800	97	1000	96	1200	95	1400	94	1600	94	1800	93	2000	92	2200	90	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: $R_{avg} \leq 1.75\% @ 400 - 700\text{nm}$ (N-BK7) Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Wavelength (nm)	Transmission T (%)																									
300	70																									
400	98																									
600	98																									
800	97																									
1000	96																									
1200	95																									
1400	94																									
1600	94																									
1800	93																									
2000	92																									
2200	90																									
N-BK7 with VIS-EXT Coating Typical Transmission <table border="1"><caption>Approximate data for N-BK7 with VIS-EXT Coating Typical Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>300</td><td>70</td></tr><tr><td>400</td><td>98</td></tr><tr><td>600</td><td>98</td></tr><tr><td>700</td><td>98</td></tr><tr><td>800</td><td>95</td></tr><tr><td>1000</td><td>85</td></tr><tr><td>1200</td><td>78</td></tr></tbody></table>		Wavelength (nm)	Transmission T (%)	300	70	400	98	600	98	700	98	800	95	1000	85	1200	78	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: $R_{avg} \leq 0.5\% @ 350 - 700\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data								
Wavelength (nm)	Transmission T (%)																									
300	70																									
400	98																									
600	98																									
700	98																									
800	95																									
1000	85																									
1200	78																									
N-BK7 with VIS-NIR Coating Typical Transmission <table border="1"><caption>Approximate data for N-BK7 with VIS-NIR Coating Typical Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>300</td><td>70</td></tr><tr><td>400</td><td>98</td></tr><tr><td>600</td><td>98</td></tr><tr><td>800</td><td>98</td></tr><tr><td>1000</td><td>98</td></tr><tr><td>1200</td><td>78</td></tr></tbody></table>		Wavelength (nm)	Transmission T (%)	300	70	400	98	600	98	800	98	1000	98	1200	78	Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.										
Wavelength (nm)	Transmission T (%)																									
300	70																									
400	98																									
600	98																									
800	98																									
1000	98																									
1200	78																									

	The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 0.25\% @ 880nm$ $R_{avg} \leq 1.25\% @ 400 - 870nm$ $R_{avg} \leq 1.25\% @ 890 - 1000nm$ 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: $R_{avg} \leq 0.4\% @ 425 - 675nm$ 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: $R_{abs} \leq 0.25\% @ 532nm$ $R_{abs} \leq 0.25\% @ 1064nm$ $R_{avg} \leq 1.0\% @ 500 - 1100nm$ 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: $R_{avg} \leq 0.5\% @ 600 - 1050nm$ 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: $R_{abs} \leq 1.5\% @ 750 - 800nm$ $R_{abs} \leq 1.0\% @ 800 - 1550nm$ $R_{avg} \leq 0.7\% @ 750 - 1550nm$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data



Coating Curves

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

