

[See all 245 Products in Family](#)

TECHSPEC[®] 50mm Dia. x 100mm FL, Uncoated, UV Double-Convex Lens



UV Fused Silica Double-Convex (DCX) Lenses



Stock #22-427 5 In Stock

☐ Other Coating Options

-

1

+

S\$441⁰⁰

ADD TO CART

Volume Pricing	
Qty 1-5	S\$441.00 each
Qty 6-25	S\$352.80 each
Qty 26-49	S\$330.40 each
Need More?	Request Quote

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):	8.25 ±0.10
Edge Thickness ET (mm):	1.20
Clear Aperture CA (mm):	49.00
Optical Properties	
Back Focal Length BFL (mm):	97.13
Effective Focal Length EFL (mm):	100.00
Coating:	Uncoated
Coating Specification:	Uncoated
Substrate: ☐	Fused Silica (Corning 7980)
Surface Quality:	40-20
Power (P-V) @ 632.8nm:	1.5λ
Irregularity (P-V) @ 632.8nm:	λ/4
Radius R ₁ =R ₂ (mm):	90.38
f#:	2.00
Focal Length Specification Wavelength (nm):	587.6
Focal Length Tolerance (%):	±1
Numerical Aperture NA:	0.25
Wavelength Range (nm):	200 - 2200
Regulatory Compliance	
Certificate of Conformance:	View

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

- Ideal for Imaging Applications
- Minimize Aberrations Including Spherical and Coma
- Precision Fused Silica Substrate

TECHSPEC® UV Fused Silica 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 canceled due to the symmetric lens design. TECHSPEC® UV Fused Silica Double-Convex (DCX) Lenses have a precision fused silica substrate. These lenses are available uncoated or with UV-AR, UV-VIS, VIS-EXT, VIS-NIR, VIS 0°, NIR I, or NIR II coatings.

Technical Information

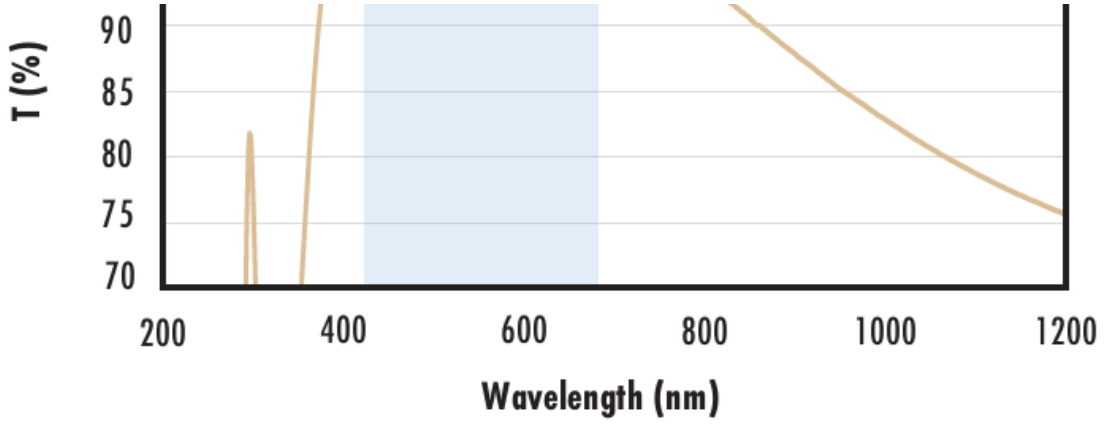
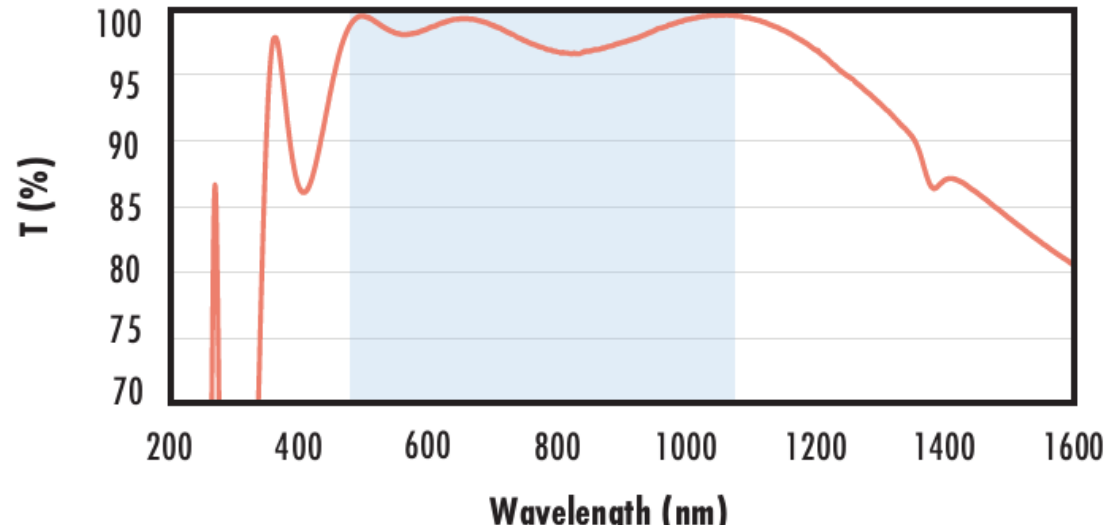
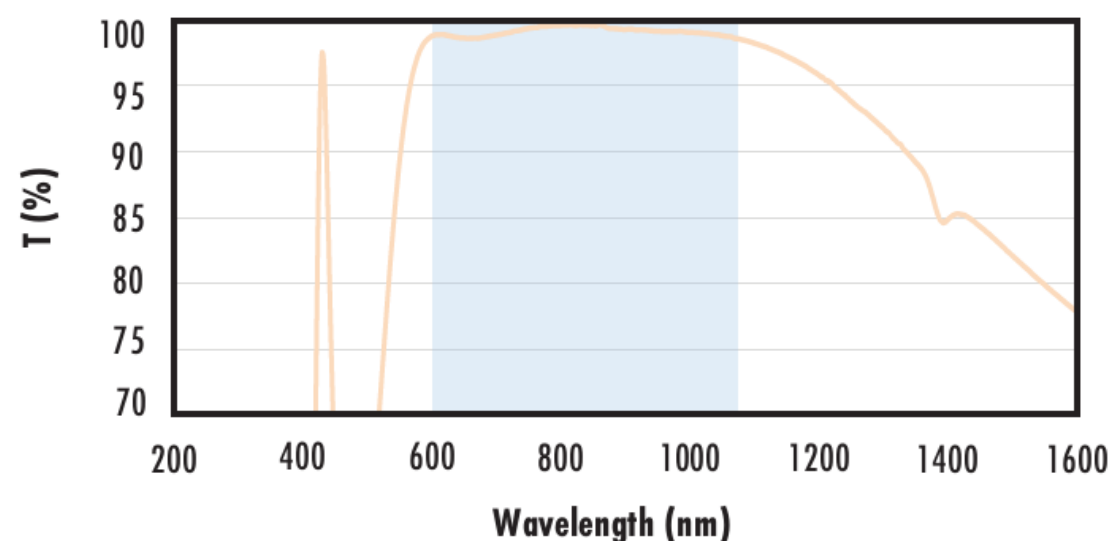
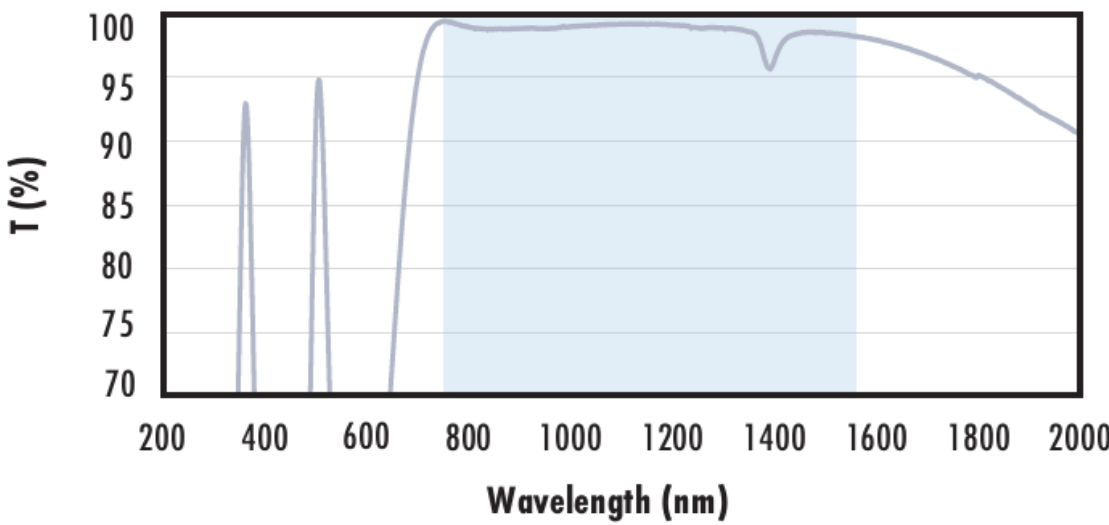


UV FS Transmission Curve



FUSED SILICA																									
Uncoated Fused Silica Typical Transmission <table border="1"><caption>Approximate data for Uncoated Fused Silica Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>200</td><td>92</td></tr><tr><td>400</td><td>94</td></tr><tr><td>600</td><td>94</td></tr><tr><td>800</td><td>94</td></tr><tr><td>1000</td><td>94</td></tr><tr><td>1200</td><td>94</td></tr><tr><td>1400</td><td>92</td></tr><tr><td>1600</td><td>94</td></tr><tr><td>1800</td><td>94</td></tr><tr><td>2000</td><td>94</td></tr><tr><td>2200</td><td>90</td></tr></tbody></table>	Wavelength (nm)	Transmission T (%)	200	92	400	94	600	94	800	94	1000	94	1200	94	1400	92	1600	94	1800	94	2000	94	2200	90	Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra. Click Here to Download Data
Wavelength (nm)	Transmission T (%)																								
200	92																								
400	94																								
600	94																								
800	94																								
1000	94																								
1200	94																								
1400	92																								
1600	94																								
1800	94																								
2000	94																								
2200	90																								
Fused Silica with MgF₂ Coating Typical Transmission <table border="1"><caption>Approximate data for Fused Silica with MgF₂ Coating Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>200</td><td>94</td></tr><tr><td>400</td><td>97</td></tr><tr><td>600</td><td>97</td></tr><tr><td>800</td><td>96</td></tr><tr><td>1000</td><td>96</td></tr><tr><td>1200</td><td>96</td></tr><tr><td>1400</td><td>93</td></tr><tr><td>1600</td><td>95</td></tr><tr><td>1800</td><td>95</td></tr><tr><td>2000</td><td>95</td></tr><tr><td>2200</td><td>90</td></tr></tbody></table>	Wavelength (nm)	Transmission T (%)	200	94	400	97	600	97	800	96	1000	96	1200	96	1400	93	1600	95	1800	95	2000	95	2200	90	Typical transmission of a 3mm thick fused silica 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
Wavelength (nm)	Transmission T (%)																								
200	94																								
400	97																								
600	97																								
800	96																								
1000	96																								
1200	96																								
1400	93																								
1600	95																								
1800	95																								
2000	95																								
2200	90																								
Fused Silica with UV-AR Coating Typical Transmission																									

	Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 1.0\% @ 250 - 425\text{nm}$ $R_{avg} \leq 0.75\% @ 250 - 425\text{nm}$ $R_{avg} \leq 0.5\% @ 370 - 420\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with UV-VIS Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 1.0\% @ 350 - 450\text{nm}$ $R_{avg} \leq 1.5\% @ 250 - 700\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with VIS-EXT Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica 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
Fused Silica with VIS-NIR Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica 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
Fused Silica with VIS 0° Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica 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
Fused Silica with YAG-BBAR Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica 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
Fused Silica with NIR I Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica 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
Fused Silica with NIR II Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica 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