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TECHSPEC<sup>®</sup> 12mm Dia. x 45mm, UV-VIS Coated, UV Double-Convex Lens



UV Fused Silica Double-Convex (DCX) Lenses



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-

1

+

S\$207<sup>20</sup>

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| Volume Pricing |                               |
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| Qty 1-5        | S\$207.20 each                |
| Qty 6-25       | S\$165.20 each                |
| Qty 26-49      | S\$156.80 each                |
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General

Type:

Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):

|                           |                      |
|---------------------------|----------------------|
| 12.00 +0.0/-0.025         |                      |
| Centering (arcmin):       | <1                   |
| Bevel:                    | Protective as needed |
| Center Thickness CT (mm): | 2.99 ±0.05           |
| Edge Thickness ET (mm):   | 2.10                 |
| Clear Aperture CA (mm):   | 11.00                |

| Optical Properties                                    |                                                                              |
|-------------------------------------------------------|------------------------------------------------------------------------------|
| Back Focal Length BFL (mm):                           | 43.96                                                                        |
| Effective Focal Length EFL (mm):                      | 45.00                                                                        |
| Coating:                                              | UV-VIS (250-700nm)                                                           |
| Coating Specification:                                | R <sub>abs</sub> ≤1.0% @ 350 - 450nm<br>R <sub>avg</sub> ≤1.5% @ 250 - 700nm |
| Substrate: <input type="checkbox"/>                   | <a href="#">Fused Silica</a> (Corning 7980)                                  |
| Surface Quality:                                      | 40-20                                                                        |
| Power (P-V) @ 632.8nm:                                | 1.5λ                                                                         |
| Irregularity (P-V) @ 632.8nm:                         | λ/4                                                                          |
| Radius R <sub>1</sub> =R <sub>2</sub> (mm):           | 40.79                                                                        |
| f/#:                                                  | 3.75                                                                         |
| Focal Length Specification Wavelength (nm):           | 587.6                                                                        |
| Focal Length Tolerance (%):                           | ±1                                                                           |
| Numerical Aperture NA:                                | 0.13                                                                         |
| Wavelength Range (nm):                                | 250 - 700                                                                    |
| Damage Threshold, Reference: <input type="checkbox"/> | 3 J/cm² @ 355nm, 10ns<br>5 J/cm² @ 532nm, 10ns                               |

| Regulatory Compliance       |                           |
|-----------------------------|---------------------------|
| RoHS 2015:                  | <a href="#">Compliant</a> |
| Certificate of Conformance: | <a href="#">View</a>      |
| Reach 235:                  | <a href="#">Compliant</a> |

## Product Details

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

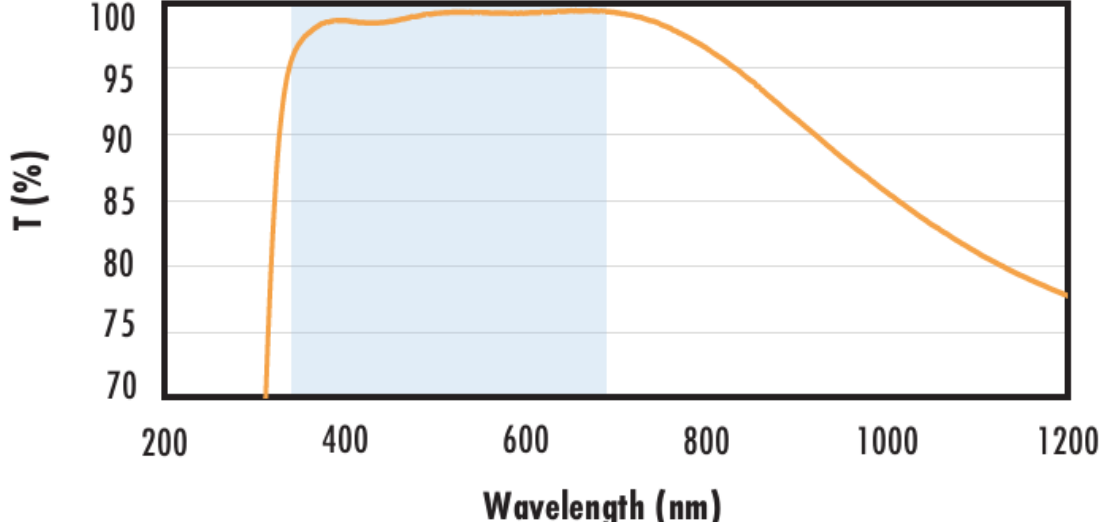
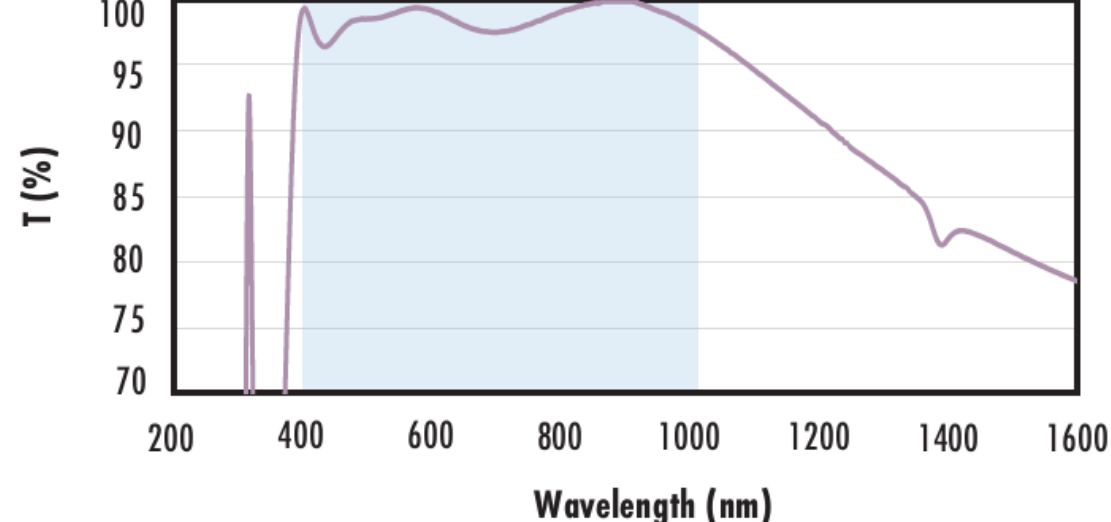
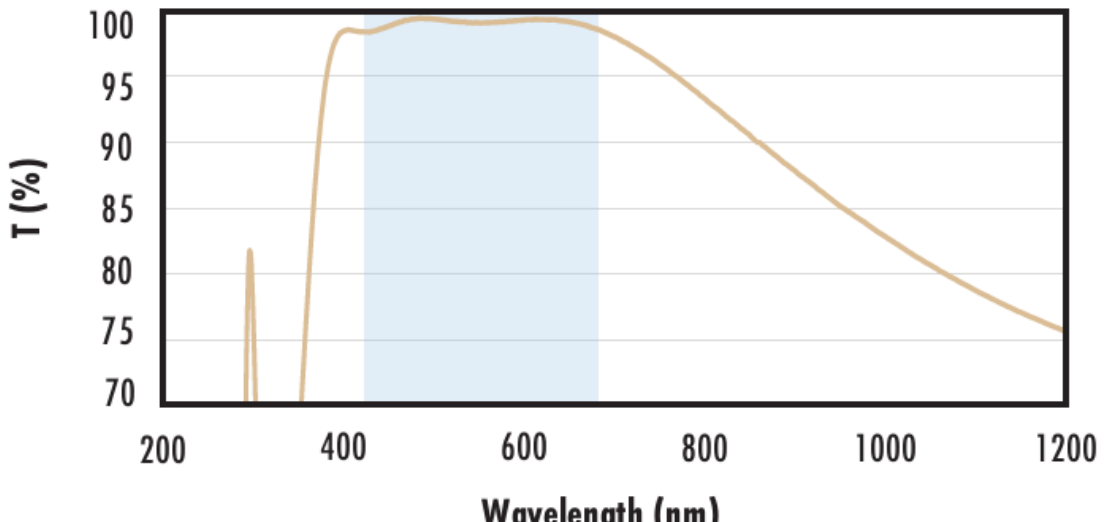
TECHSPEC® UV Fused Silica Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) 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                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Uncoated Fused Silica<br/>Typical Transmission</div><div></div></div>                     | <div><p>Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                                                                                                                                                                                                                                                                                                                                           |
| <div><div>Fused Silica with MgF<sub>2</sub> Coating<br/>Typical Transmission</div><div></div></div> | <div><p>Typical transmission of a 3mm thick fused silica 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><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm}</math> (N-BK7)</p><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                                                                 |
| <div><div>Fused Silica with UV-AR Coating<br/>Typical Transmission</div><div></div></div>           | <div><p>Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><p><math>R_{abs} \leq 1.0\% @ 250 - 425\text{nm}</math><br/><math>R_{avg} \leq 0.75\% @ 250 - 425\text{nm}</math><br/><math>R_{avg} \leq 0.5\% @ 370 - 420\text{nm}</math></p><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div> |

|                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="247 127 1285 765"><h3>Fused Silica with UV-VIS Coating<br/>Typical Transmission</h3></div>      | <div data-bbox="1325 290 1850 593"><p>Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><p><math>R_{abs} \leq 1.0\%</math> @ 350 - 450nm<br/><math>R_{avg} \leq 1.5\%</math> @ 250 - 700nm</p><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                     |
| <div data-bbox="247 819 1285 1430"><h3>Fused Silica with VIS-EXT Coating<br/>Typical Transmission</h3></div>   | <div data-bbox="1325 994 1850 1246"><p>Typical transmission of a 3mm thick fused silica 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><math>R_{avg} \leq 0.5\%</math> @ 350 - 700nm</p><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                                                                     |
| <div data-bbox="247 1495 1285 2107"><h3>Fused Silica with VIS-NIR Coating<br/>Typical Transmission</h3></div> | <div data-bbox="1325 1632 1850 1952"><p>Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><p><math>R_{abs} \leq 0.25\%</math> @ 880nm<br/><math>R_{avg} \leq 1.25\%</math> @ 400 - 870nm<br/><math>R_{avg} \leq 1.25\%</math> @ 890 - 1000nm</p><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div> |
| <div data-bbox="247 2163 1285 2775"><h3>Fused Silica with VIS 0° Coating<br/>Typical Transmission</h3></div>  | <div data-bbox="1325 2338 1850 2591"><p>Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><p><math>R_{avg} \leq 0.4\%</math> @ 425 - 675nm</p><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                                                                     |
| <div data-bbox="247 2837 1285 2881"><h3>Fused Silica with YAG-BBAR Coating</h3></div>                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Typical Transmission</div></div>                                              | <div>Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><math>R_{abs} \leq 0.25\% \text{ @ } 532\text{nm}</math><br/><math>R_{abs} \leq 0.25\% \text{ @ } 1064\text{nm}</math><br/><math>R_{avg} \leq 1.0\% \text{ @ } 500 - 1100\text{nm}</math></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>           |
| <div><div>Fused Silica with NIR I Coating</div><div>Typical Transmission</div></div>   | <div>Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><math>R_{avg} \leq 0.5\% \text{ @ } 600 - 1050\text{nm}</math></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>                                                                                                                                       |
| <div><div>Fused Silica with NIR II Coating</div><div>Typical Transmission</div></div> | <div>Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><math>R_{abs} \leq 1.5\% \text{ @ } 750 - 800\text{nm}</math><br/><math>R_{abs} \leq 1.0\% \text{ @ } 800 - 1550\text{nm}</math><br/><math>R_{avg} \leq 0.7\% \text{ @ } 750 - 1550\text{nm}</math></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div> |

## 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