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**TECHSPEC® 12mm Dia. x 20mm FL, VIS-NIR Coated, UV Double-Convex Lens**



UV Fused Silica Double-Convex (DCX) Lenses



Stock **#63-829** **20+ In Stock**

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⊖ 1 ⊕ €155.<sup>00</sup>

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Volume Pricing	
Qty 1-5	€155,00 each
Qty 6-25	€124,00 each
Qty 26-49	€116,00 each
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ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

**General**

Double-Convex Lens **Type:**

**Physical & Mechanical Properties**

12.00 +0.0/-0.025	<b>Diameter (mm):</b>
<1	<b>Centering (arcmin):</b>
Protective as needed	<b>Bevel:</b>
4.37 ±0.05	<b>Center Thickness CT (mm):</b>
2.27	<b>Edge Thickness ET (mm):</b>
11.00	<b>Clear Aperture CA (mm):</b>
<b>Optical Properties</b>	
18.44	<b>Back Focal Length BFL (mm):</b>
20.00	<b>Effective Focal Length EFL (mm):</b>
VIS-NIR (400-1000nm)	<b>Coating:</b>
R <sub>abs</sub> ≤0.25% @ 880nm R <sub>avg</sub> ≤1.25% @ 400 - 870nm R <sub>avg</sub> ≤1.25% @ 890 - 1000nm	<b>Coating Specification:</b>
Fused Silica (Corning 7980)	<b>Substrate:</b> <input type="checkbox"/>
40-20	<b>Surface Quality:</b>
1.5λ	<b>Power (P-V) @ 632.8nm:</b>
λ/4	<b>Irregularity (P-V) @ 632.8nm:</b>
17.63	<b>Radius R<sub>1</sub>=R<sub>2</sub> (mm):</b>
1.67	<b>f#:</b>
587.6	<b>Focal Length Specification Wavelength (nm):</b>
±1	<b>Focal Length Tolerance (%):</b>
0.30	<b>Numerical Aperture NA:</b>
400 - 1000	<b>Wavelength Range (nm):</b>
5 J/cm <sup>2</sup> @ 532nm, 10ns	<b>Damage Threshold, Reference:</b> <input type="checkbox"/>

<b>Regulatory Compliance</b>	
Compliant	<b>RoHS 2015:</b>
View	<b>Certificate of Conformance:</b>
Compliant	<b>Reach 235:</b>

## 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

- 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	
<h3>Uncoated Fused Silica Typical Transmission</h3>	<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>
<h3>Fused Silica with MgF<sub>2</sub> Coating Typical Transmission</h3>	<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>
<h3>Fused Silica with UV-AR Coating Typical Transmission</h3>	<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>  <math>R_{avg} \leq 0.75\% @ 250 - 425\text{nm}</math>  <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>



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### 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.

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### 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.

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### 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.

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### 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.

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200 400 600 800 1000 1200 Wavelength (nm)	
<p data-bbox="546 192 1113 311"><b>Fused Silica with YAG-BBAR Coating Typical Transmission</b></p> 	<p data-bbox="1323 356 1848 415">Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p data-bbox="1323 430 1848 474">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1449 489 1722 563"> <math>R_{abs} \leq 0.25\% @ 532nm</math>  <math>R_{abs} \leq 0.25\% @ 1064nm</math>  <math>R_{avg} \leq 1.0\% @ 500 - 1100nm</math> </p> <p data-bbox="1323 578 1848 623">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1449 638 1722 667"><a href="#">Click Here to Download Data</a></p>
<p data-bbox="588 875 1071 994"><b>Fused Silica with NIR I Coating Typical Transmission</b></p> 	<p data-bbox="1323 1053 1848 1113">Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p data-bbox="1323 1127 1848 1172">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1449 1187 1722 1216"><math>R_{avg} \leq 0.5\% @ 600 - 1050nm</math></p> <p data-bbox="1323 1231 1848 1276">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1449 1291 1722 1320"><a href="#">Click Here to Download Data</a></p>
<p data-bbox="577 1558 1081 1676"><b>Fused Silica with NIR II Coating Typical Transmission</b></p> 	<p data-bbox="1323 1706 1848 1765">Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI.</p> <p data-bbox="1323 1780 1848 1825">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1449 1840 1722 1914"> <math>R_{abs} \leq 1.5\% @ 750 - 800nm</math>  <math>R_{abs} \leq 1.0\% @ 800 - 1550nm</math>  <math>R_{avg} \leq 0.7\% @ 750 - 1550nm</math> </p> <p data-bbox="1323 1929 1848 1988">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1449 2003 1722 2033"><a href="#">Click Here to Download Data</a></p>

**Coating Curves**

**Compatible Mounts**