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TECHSPEC<sup>®</sup> 9mm Dia. x 27mm, UV-VIS Coated, UV Double-Convex Lens



UV Fused Silica Double-Convex (DCX) Lenses



Stock **#49-993** **14 In Stock**

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-

1

+

C\$204<sup>40</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-5        | C\$204.40 each                |
| Qty 6-25       | C\$163.80 each                |
| Qty 26-49      | C\$154.00 each                |
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General

Double-Convex Lens

Type:

Physical & Mechanical Properties

Diameter (mm):

|                      |                           |
|----------------------|---------------------------|
| 9.00 +0.0/-0.025     |                           |
| <1                   | Centering (arcmin):       |
|                      | Bevel:                    |
| Protective as needed |                           |
| 2.50 ±0.05           | Center Thickness CT (mm): |
|                      | Edge Thickness ET (mm):   |
| 1.66                 |                           |
|                      | Clear Aperture CA (mm):   |
| 8.1                  |                           |

|                                                                              |                                                       |
|------------------------------------------------------------------------------|-------------------------------------------------------|
| Optical Properties                                                           |                                                       |
| 26.13                                                                        | Back Focal Length BFL (mm):                           |
| 27.00                                                                        | Effective Focal Length EFL (mm):                      |
|                                                                              | 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"/>                   |
| Fused Silica (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):           |
| 24.36                                                                        |                                                       |
|                                                                              | f/#:                                                  |
| 3.00                                                                         |                                                       |
|                                                                              | Focal Length Specification Wavelength (nm):           |
| 587.6                                                                        |                                                       |
|                                                                              | Focal Length Tolerance (%):                           |
| ±1                                                                           |                                                       |
|                                                                              | Numerical Aperture NA:                                |
| 0.17                                                                         |                                                       |
|                                                                              | Wavelength Range (nm):                                |
| 250 - 700                                                                    |                                                       |
|                                                                              | Damage Threshold, Reference: <input type="checkbox"/> |
| 3 J/cm² @ 355nm, 10ns<br>5 J/cm² @ 532nm, 10ns                               |                                                       |

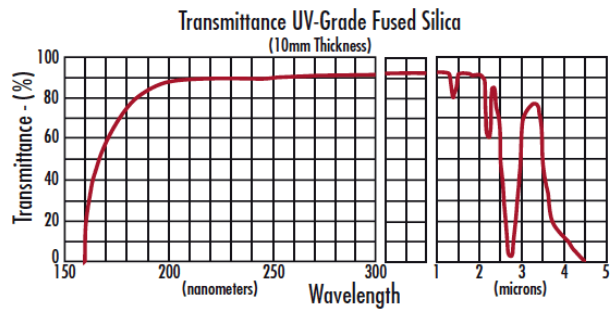
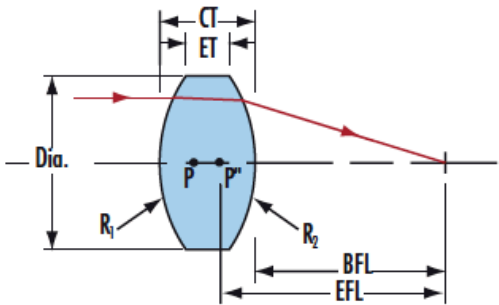
|                       |                             |
|-----------------------|-----------------------------|
| Regulatory Compliance |                             |
|                       | RoHS 2015:                  |
| Compliant             |                             |
|                       | Certificate of Conformance: |
| View                  |                             |
|                       | Reach 235:                  |
| Compliant             |                             |

## Product Details

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

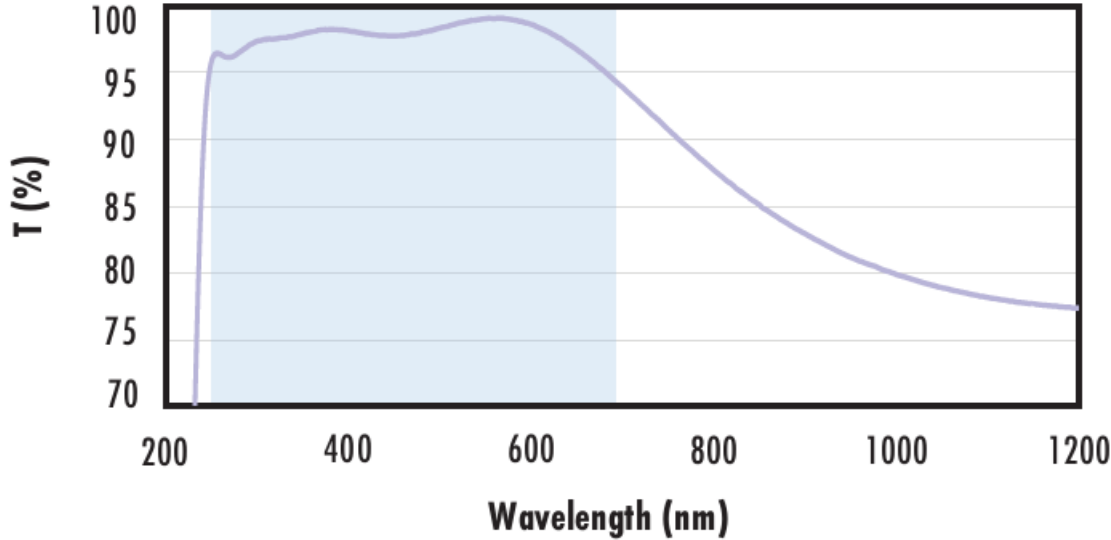
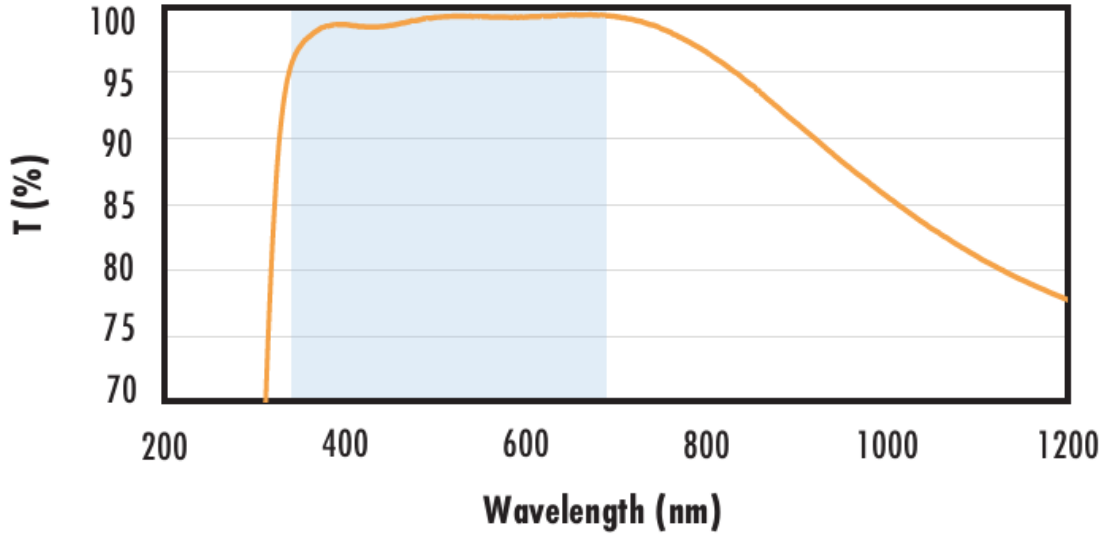
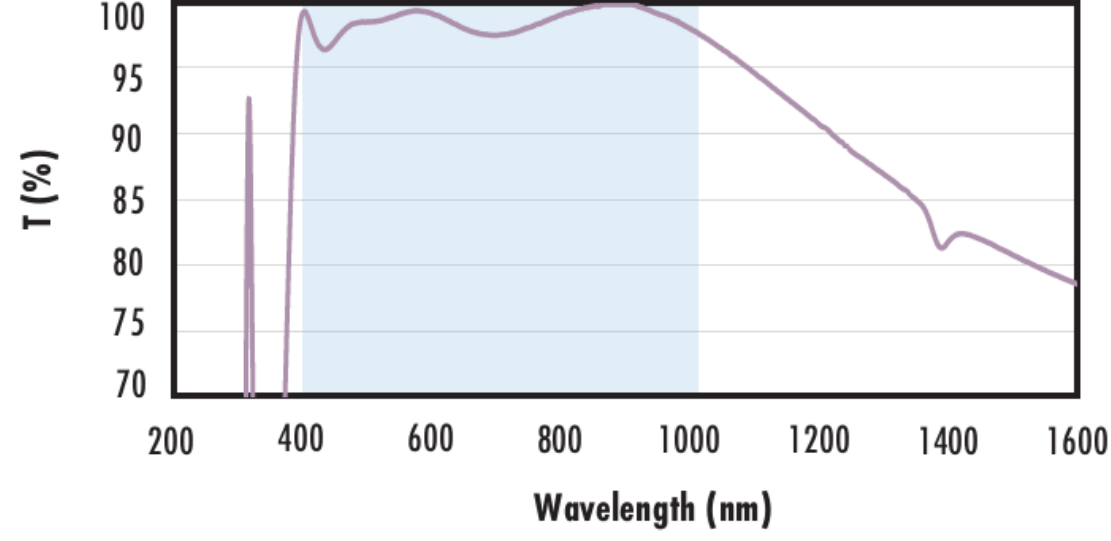
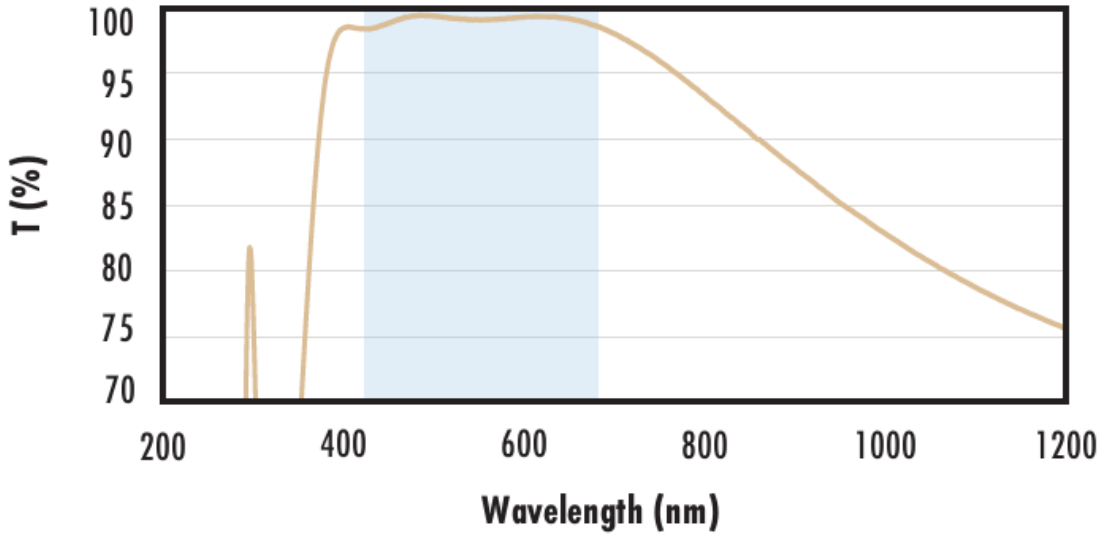
TECHSPEC® UV Fused Silica Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) 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.

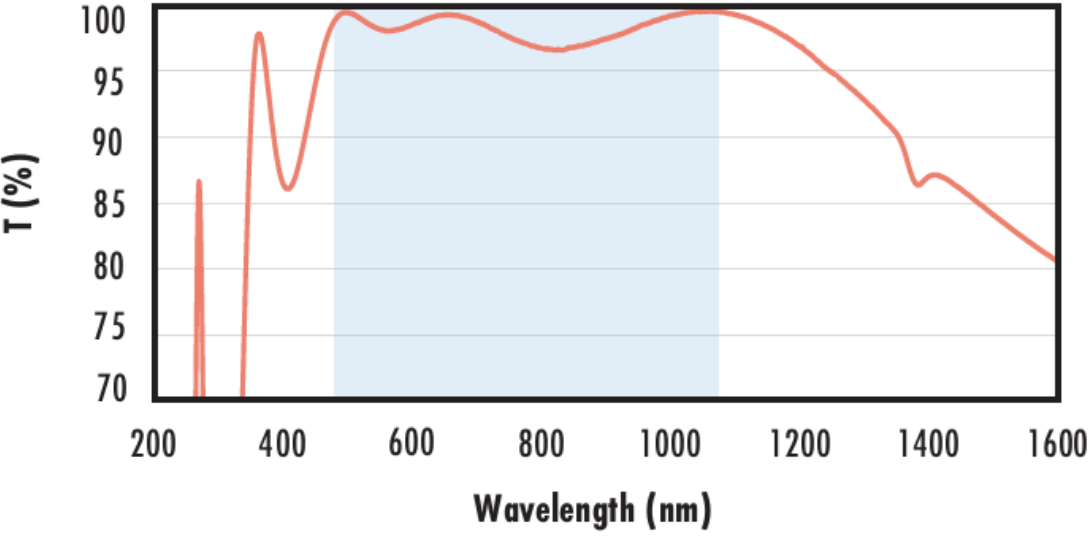
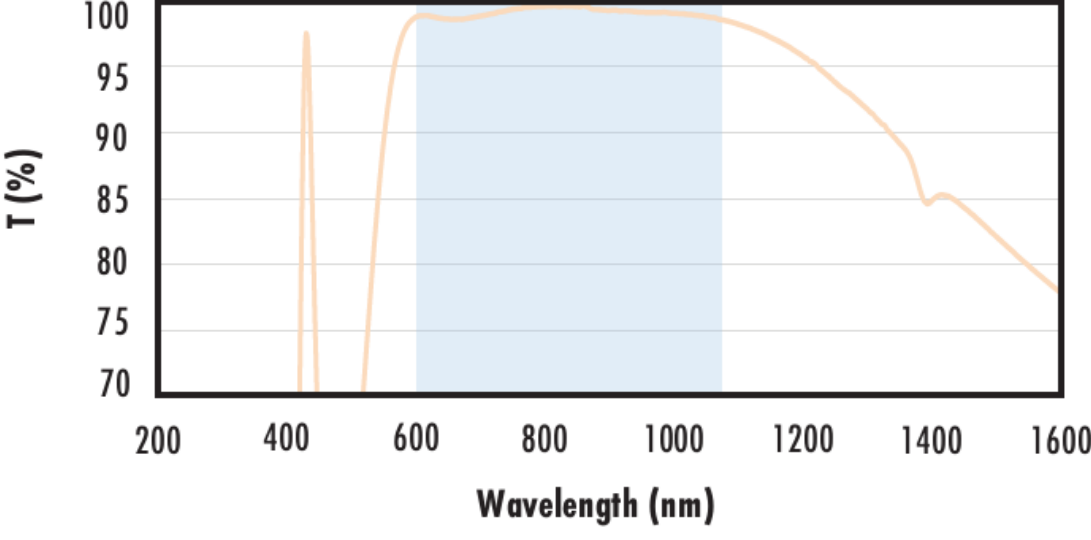
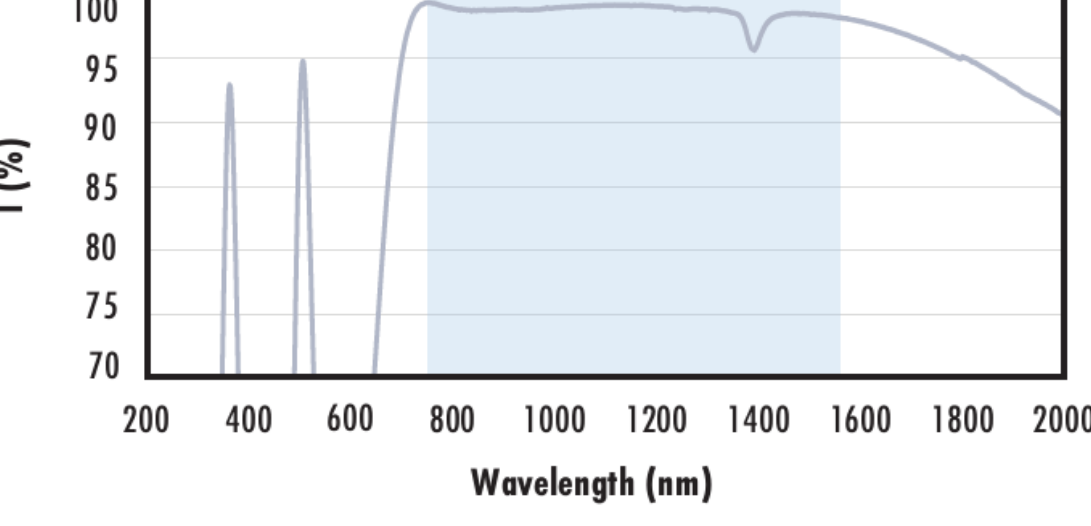
## Technical Information



UV FS Transmission Curve

| FUSED SILICA                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Uncoated Fused Silica<br/>Typical Transmission</div><div><div><div>T (%)</div><div>100<br/>95<br/>90<br/>85<br/>80<br/>75<br/>70</div><div><div>2004006008001000120014001600180020002200</div><div>Wavelength (nm)</div></div></div></div></div>                     |  | <div>Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.</div> <div><a href="#">Click Here to Download Data</a></div>                                                                                                                                                                                                                                                                                                                                                        |
| <div><div>Fused Silica with MgF<sub>2</sub> Coating<br/>Typical Transmission</div><div><div><div>T (%)</div><div>100<br/>95<br/>90<br/>85<br/>80<br/>75<br/>70</div><div><div>2004006008001000120014001600180020002200</div><div>Wavelength (nm)</div></div></div></div></div> |  | <div>Typical transmission of a 3mm thick fused silica window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div>R<sub>avg</sub> ≤ 1.75% @ 400 - 700nm (N-BK7)</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 UV-AR Coating<br/>Typical Transmission</div><div><div><div>T (%)</div><div>100<br/>95<br/>90<br/>85<br/>80<br/>75<br/>70</div><div><div>20040060080010001200</div><div>Wavelength (nm)</div></div></div></div></div>                               |  | <div>Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div>R<sub>abs</sub> ≤ 1.0% @ 250 - 425nm</div> <div>R<sub>avg</sub> ≤ 0.75% @ 250 - 425nm</div> <div>R<sub>avg</sub> ≤ 0.5% @ 370 - 420nm</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 UV-VIS Coating</div><div>Typical Transmission</div></div>    | <div>Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) 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 1.0\% \text{ @ } 350 - 450\text{nm}</math></div><div><math>R_{avg} \leq 1.5\% \text{ @ } 250 - 700\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 VIS-EXT Coating</div><div>Typical Transmission</div></div>  | <div>Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) 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{ @ } 350 - 700\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 VIS-NIR Coating</div><div>Typical Transmission</div></div> | <div>Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) 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{ @ } 880\text{nm}</math></div><div><math>R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}</math></div><div><math>R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\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 VIS 0° Coating</div><div>Typical Transmission</div></div>  | <div>Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) 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 0.4\% \text{ @ } 425 - 675\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 YAG-BBAR Coating</div><div>Typical Transmission</div></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

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## Compatible Mounts