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TECHSPEC<sup>®</sup> 50.8mm Dia. x 100mm FL, 8-12μm BBAR Coated, ZnSe Plano-Convex Lens

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TECHSPEC Zinc Selenide (ZnSe) Plano-Convex (PCX) Lenses

Stock **#11-410** 1 In Stock

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-

1

+

A\$2,336<sup>.00</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-10       | A\$2,336.00 each              |
| Qty 11-25      | A\$2,104.00 each              |
| Qty 26-49      | A\$1,408.00 each              |
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General

Plano-Convex Lens

Type:

Physical & Mechanical Properties

50.80 +0.00/-0.10

Diameter (mm):

|                      |                           |
|----------------------|---------------------------|
| ≤12.7                | Centering, ETD (μm):      |
| 4.60 ±0.10           | Center Thickness CT (mm): |
| 2.28                 | Edge Thickness ET (mm):   |
| 45.72                | Clear Aperture CA (mm):   |
| Protective as needed | Bevel:                    |
| <50 RMS              | Surface Roughness (□):    |

|                         |                                                  |
|-------------------------|--------------------------------------------------|
| Optical Properties      |                                                  |
| 100.00 @ 10.6μm         | Effective Focal Length EFL (mm):                 |
| 98.09                   | Back Focal Length BFL (mm):                      |
| BBAR (8000-12000nm)     | Coating:                                         |
| Ravg ≤0.5% @ 8 - 12μm   | Coating Specification:                           |
| Coherent® Infrared ZnSe | Substrate: □                                     |
| 40-20                   | Surface Quality:                                 |
| λ                       | Power (P-V) @ 632.8nm:                           |
| λ/20                    | Irregularity (P-V) @ 10.6μm:                     |
| 140.27                  | Radius R <sub>1</sub> (mm):                      |
| 1.97                    | f/#:                                             |
| 0.25                    | Numerical Aperture NA:                           |
| 8000 - 12000            | Wavelength Range (nm):                           |
| <0.0005 @ 10.6μm        | Bulk Absorption Coefficient (cm <sup>-1</sup> ): |

|            |                       |
|------------|-----------------------|
| Electrical |                       |
| λ/10       | Power (P-V) @ 10.6μm: |

|                       |                             |
|-----------------------|-----------------------------|
| Regulatory Compliance |                             |
| Compliant             | RoHS 2015:                  |
| View                  | Certificate of Conformance: |
| Compliant             | Reach 242:                  |

## Product Details

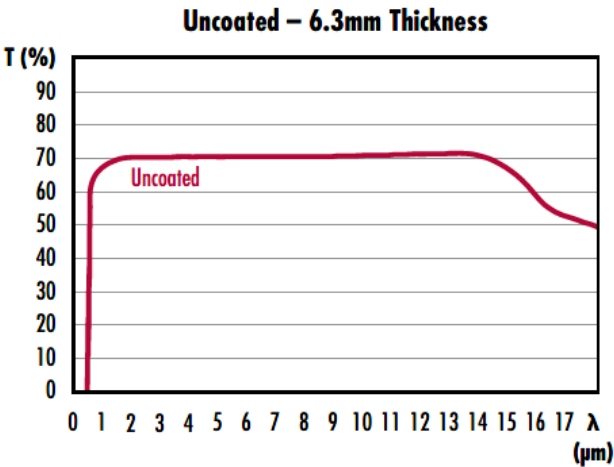
- Edmund Optics® Designed, Coherent® Manufactured
- Premier Grade ZnSe Material
- Uncoated or Broadband AR Coating Options

TECHSPEC® Zinc Selenide (ZnSe) Plano-Convex (PCX) Lenses are designed for focusing or collimation applications in the mid-wave and longwave infrared spectrum. Manufactured by Coherent®, these lenses feature Infrared ZnSe material with <0.0005cm<sup>-1</sup> bulk absorption at 10.6μm and are available uncoated or with a variety of broadband anti-reflection coating options. The 8-12μm coating is ideal for use with CO<sub>2</sub> lasers and thermal camera applications, whereas the dual band 3-12μm coating is ideal for hyperspectral applications. TECHSPEC® Zinc Selenide PCX Lenses feature an irregularity of <λ/20 at 10.6μm, 40-20 surface quality, and <50Å surface roughness. Three diameter options are available, with effective focal lengths ranging from 12.7mm to 250mm.

**Notes:** II-VI Incorporated is now Coherent Corp.

Special care should be taken when handling Zinc Selenide as it is a toxic material. Always wear rubber or plastic gloves to avoid risk of contamination.

## Technical Information



| AR COATED ZINC SELENIDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|---|----|---|----|---|----|---|----|----|----|----|----|----|----|----|----|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><p><b>ZnSe with 3-12μm AR Coating<br/>Typical Transmission</b></p><table><tr><th>λ (μm)</th><th>T (%)</th></tr><tr><td>2</td><td>70</td></tr><tr><td>3</td><td>95</td></tr><tr><td>4</td><td>98</td></tr><tr><td>5</td><td>95</td></tr><tr><td>6</td><td>97</td></tr><tr><td>7</td><td>96</td></tr><tr><td>8</td><td>95</td></tr><tr><td>9</td><td>96</td></tr><tr><td>10</td><td>97</td></tr><tr><td>11</td><td>96</td></tr><tr><td>12</td><td>94</td></tr><tr><td>13</td><td>90</td></tr><tr><td>14</td><td>85</td></tr></table></div> | λ (μm) | T (%) | 2 | 70 | 3 | 95 | 4 | 98 | 5 | 95 | 6  | 97 | 7  | 96 | 8  | 95 | 9  | 96 | 10 | 97 | 11                                                                                                                                                                                                                                                                                                                                                                                       | 96 | 12 | 94 | 13 | 90 | 14 | 85 | <p>Typical transmission of a ZnSe window with BBAR (3000-12000nm) 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} &lt; 5.0\%</math> @ 3 - 12μm</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> |
| λ (μm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | T (%)  |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 70     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 95     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 98     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 95     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 97     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 96     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 95     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 96     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 97     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 96     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 94     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 90     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 85     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| <div><p><b>ZnSe with 8-12μm AR Coating<br/>Typical Transmission</b></p><table><tr><th>λ (μm)</th><th>T (%)</th></tr><tr><td>6</td><td>70</td></tr><tr><td>7</td><td>90</td></tr><tr><td>8</td><td>98</td></tr><tr><td>9</td><td>99</td></tr><tr><td>10</td><td>99</td></tr><tr><td>11</td><td>98</td></tr><tr><td>12</td><td>96</td></tr><tr><td>13</td><td>92</td></tr><tr><td>14</td><td>85</td></tr></table></div>                                                                                                                         | λ (μm) | T (%) | 6 | 70 | 7 | 90 | 8 | 98 | 9 | 99 | 10 | 99 | 11 | 98 | 12 | 96 | 13 | 92 | 14 | 85 | <p>Typical transmission of a ZnSe window with BBAR (8000-12000nm) 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> @ 8 - 12μm</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> |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| λ (μm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | T (%)  |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 70     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 90     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 98     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 99     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 99     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 98     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 96     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 92     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |
| 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 85     |       |   |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                                                                                          |

### Special Handling

These optics require special handling to avoid damage and ensure long-term performance. Proper handling, cleaning, and storage are essential to maintain optical quality. Explore our [Optics Cleaning Resources](#) for step-by-step guides and best practices. For personalized assistance, [Email us](#) or [Chat](#) with our technical support team.



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Our capabilities include:

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- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

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# Compatible Mounts