

**TECHSPEC®**

# 50.8mm Dia. x 100mm FL, 3-12 $\mu$ m BBAR Coated, ZnSe Plano-Convex Lens

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

 Stock #11-432 [CONTACT US](#) [Other Coating Options](#)

 - 1 + C\$2,044.<sup>00</sup>
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Volume Pricing	
Qty 1-10	C\$2,044.00 each
Qty 11-25	C\$1,841.00 each
Qty 26-49	C\$1,449.00 each
Need More?	<a href="#">Request Quote</a>

Product Downloads	
STEP:step	Curve:pdf
PDF Drawing:pdf	IGES:igs
Zemax:zar	eDrawing:eprt
Code V:seq	EO Spec Sheet
<a href="#">Download All</a>	

## General

**Type:** Plano-Convex Lens

## Physical & Mechanical Properties

<b>Diameter (mm):</b>	50.80 +0.00/-0.10	<b>Centering, ETD (<math>\mu</math>m):</b>	$\leq 12.7$
<b>Center Thickness CT (mm):</b>	4.60 $\pm 0.10$	<b>Edge Thickness ET (mm):</b>	2.28
<b>Clear Aperture CA (mm):</b>	45.72	<b>Bevel:</b>	Protective as needed
<b>Surface Roughness (<math>\text{\AA}</math>):</b>	<50 RMS		

## Optical Properties

<b>Effective Focal Length EFL (mm):</b>	100.00 @ 10.6 $\mu$ m	<b>Back Focal Length BFL (mm):</b>	98.09
<b>Coating:</b>	BBAR (3000-12000nm)	<b>Coating Specification:</b>	$R_{avg} \leq 3.0\%$ @ 3 - 12 $\mu$ m
<b>Substrate:</b> ⓘ	Coherent® Infrared ZnSe	<b>Surface Quality:</b>	40-20
<b>Power (P-V) @ 632.8nm:</b>	$\lambda$	<b>Irregularity (P-V) @ 10.6<math>\mu</math>m:</b>	$\lambda/20$
<b>Radius R<sub>1</sub> (mm):</b>	140.27	<b>f/#:</b>	1.97

<b>Numerical Aperture NA:</b>	0.25	<b>Wavelength Range (nm):</b>	3000 - 12000
<b>Bulk Absorption Coefficient (cm<sup>-1</sup>):</b>	<0.0005 @ 10.6μm		
<b>Electrical</b>			
<b>Power (P-V) @ 10.6μm:</b>	λ/10		
<b>Regulatory Compliance</b>			
<b>RoHS 2015:</b>	<b>Compliant</b>	<b>Certificate of Conformance:</b>	<b><a href="#">View</a></b>
<b>Reach 242:</b>	<b>Compliant</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

- 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  $<0.0005\text{cm}^{-1}$  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  $<\lambda/20$  at 10.6μm, 40-20 surface quality, and  $<50\text{Å}$  surface roughness. Three diameter options are available, with effective focal lengths ranging from 12.7mm to 250mm.

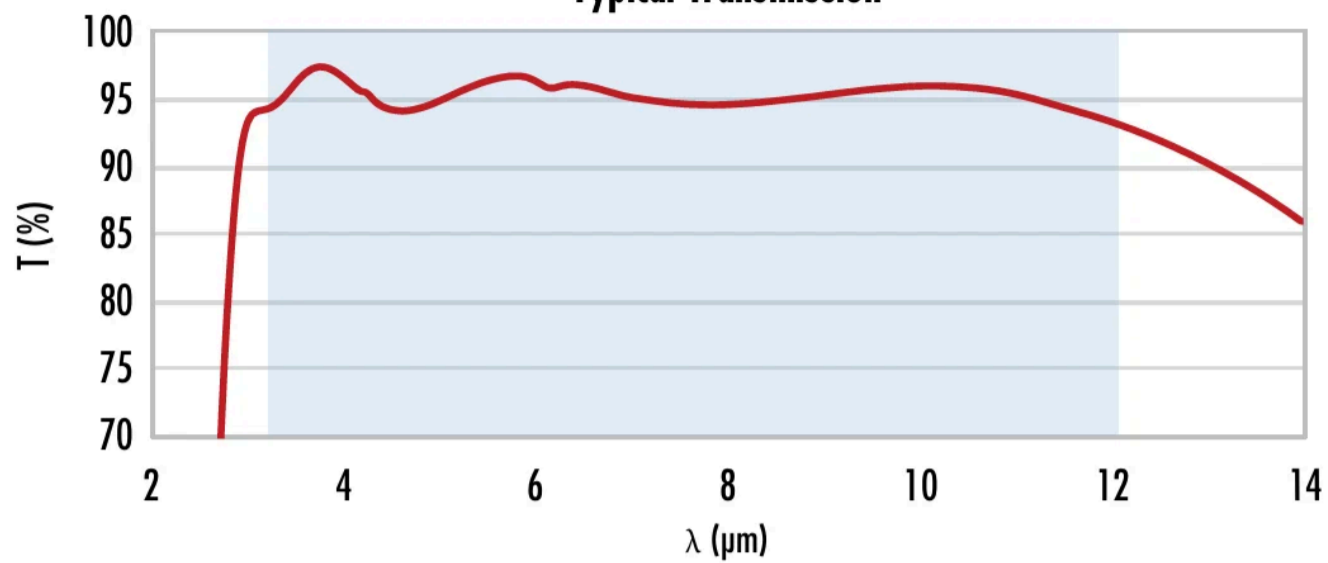
**Notes:** II-VI Incorporated is now Coherent Corp.

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



### ZnSe with 3-12 $\mu$ m AR Coating Typical Transmission



Typical transmission of a ZnSe window with BBAR (30-12000nm) coating at 0° AOI.

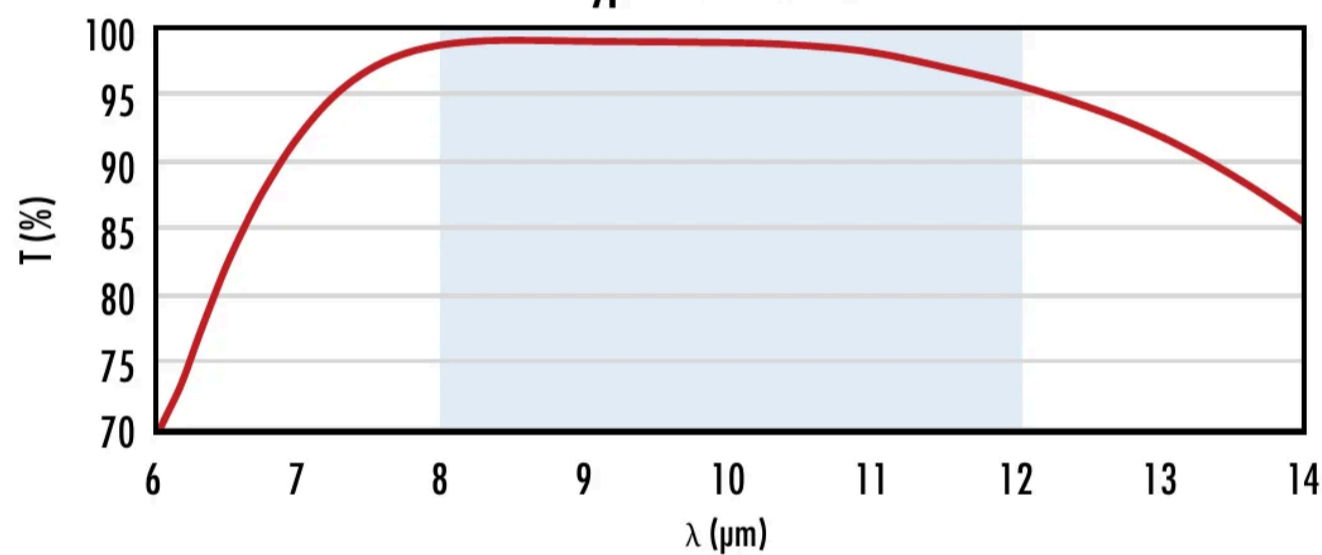
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} < 5.0\% @ 3 - 12\mu\text{m}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

### ZnSe with 8-12 $\mu$ m AR Coating Typical Transmission



Typical transmission of a ZnSe window with BBAR (80-12000nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} \leq 0.5\% @ 8 - 12\mu\text{m}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

## 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.



Component Handling Tools

## Related Products



Germanium (Ge) Plano-Convex (PCX) Lenses



Zinc Selenide (ZnSe) Aspheric Lenses



Infrared Optics



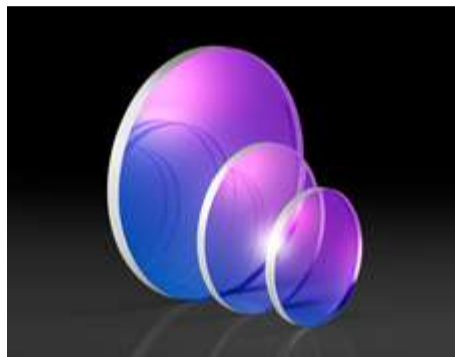
Zinc Selenide (ZnSe) Optics

## Frequently Purchased Together



#54-777 - Mounted M58 x 0.75 Threaded - Blue Filter  
C\$61.43

Qty



#63-209 - 40mm Diameter Uncoated, Calcium Fluoride Window  
C\$365.40

Qty



#64-567 - 50.0mm Optic Dia., Optic Mount  
C\$68.95

Qty



#67-562 - 25.4mm Dia. x 50.8mm FL, NIR II Coated, Plano-Convex Lens  
C\$66.50

Qty

## Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
	50.0/50.8mm Optic Dia., SM2 Thin Mount	Fixed		#17-716	C\$50.75 <a href="#">Request Quote</a>	20+ In Stock <input type="text" value="1"/>
	50.8mm Optic Dia., Optic Mount	Fixed		#64-569	C\$68.95 <a href="#">Request Quote</a>	12 In Stock <input type="text" value="1"/>
	50.0/50.8mm Optic Dia., X-Y Translating Optic Mount	Adjustable - Linear (XY)		#62-957	C\$431.20 <a href="#">Request Quote</a>	1 In Stock <input type="text" value="1"/>
	50.0/50.8mm Optic Dia., X-Y-Z Translating Optic Mount	Adjustable - Linear (XYZ)		#62-960	C\$847.00 <a href="#">Request Quote</a>	20+ In Stock <input type="text" value="1"/>
	50.0/50.8mm Optic Dia., 5 Axes Optical Mount	Adjustable - Linear (XYZ) & Tip-Tilt		#13-778	C\$1,176.00 <a href="#">Request Quote</a>	10 In Stock <input type="text" value="1"/>

Check out our full selection of mounts [here](#).

# Resources

Media Type

APPLICATION NOTE

APPLICATION NOTE

APPLICATION NOTE

- Application Note
- Scientific Paper
- Video
- Glossary
- Technical Tool
- FAQ
- Trending in Optics

Anti-Reflection  
(AR) Coatings

An  
Introduction to  
Optical  
Coatings

Understanding  
Optical  
Specifications

 APPLICATION NOTE

Lens Geometry  
Performance  
Comparison

 APPLICATION NOTE

Advantages of  
Using  
Meniscus  
Lenses in...

 SCIENTIFIC PAPER

Advantages of  
using  
engineered  
chalcogenide...

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