Windows made of zinc selenium (ZnSe) is the most commonly used optical material that allows transmission of infrared light. Nonhygroscopic and extremely stable under normal conditions, in contrast to other salt-based infrared materials.

- Non-coated and AR coated products for CO₂ lasers are available.
- In contrast to other optical materials for infrared light such as Ge (germanium), or Si (silicon), ZnSe windows allow transmission of some visible light, enabling easier adjustment (alignment) of the optical axis of infrared laser systems and enabling use of more convenient and inexpensive He-Ne lasers.







Specifications				
Material	Zinc Selenide Crystal			
Coating	OPZS: Uncoated WZSA: Anti-reflection coating (at Wavelength 10.6µm)			
Incident angle	0° (WZSA only)			
Surface Quality (Scratch–Dig)	40–20			
Clear aperture	90% of actual aperture			
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RoHS

Catalog W3152

Guide

- ► We also offer ZnSe lens (SLZS) for use in CO₂ Laser.
- For product sizes and wedges which are not listed on our website or in our catalog, please contact our Sales Division with your requests.

Attention

- Toxic hydrogen selenide is generated by contact with strong acids when it is immersed in a solution such as sulfuric acid or hydrochloric acid. Please do not use liquid solution to be in contact with ZnSe.
- ► Focusing with a high power laser onto the ZnSe lens, toxic gases may occur by heat decomposition. When ZnSe is damaged with over heating of Laser a large amount of gas and powder may occur. It case of breaking ZnSe, please avoid touching the sub-
- strates with bare hand and avoid breathing on powder and the gas.
 The surface and the back side of non-coated type has approximately 17% of reflectivity on each surface. The total power loss in transmittance is estimated at 30%.
- The WZSQ type must be used at incident angle at 0 degrees for a best transmittance.



Legally, ZnSe has been considered as a toxic optic substance, the non-coated product (OPZS) must be delivered with a certificate of Acquisition of Poisonous and Harmful Substances. In addition, ZnSe Optics disposal after use is prohibited in general. However, we only take back products that we supplied. This policy noted is in Japan and other countries may differ in the treament of ZnSe (Zinc selenide), please contact your local sales office.



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ZnSe Windows for Infrared Laser OPZS/WZSA

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Windows

Uncoated				
Part Number	Diameter	Thckness t [mm]	Parallelism	Transmission (Wavelength 10.6µm) [%]
OPZS-30C03-10-3	φ30	3	<3′	65
OPZS-40C04-10-3	φ40	4	<3′	65

AR coating				
Part Number	Diameter φD [mm]	Thckness t [mm]	Parallelism	Transmission (Wavelength 10.6μm) [%]
WZSA-19C2.5-10600	φ19	2.5	<5″	>99
WZSA-20C2.5-10600	φ20	2.5	<5″	>99
WZSA-25.4C03-10600	φ25.4	3	<5″	>99
WZSA-30C03-10-10600	φ30	3	<3′	>99
WZSA-38.1C03-10600	φ38.1	3	<5″	>99
WZSA-40C04-10-10600	φ40	4	<3′	>99
WZSA-50.8C03-10600	φ50.8	3	<5″	>99

Physics		
Wavelength [µm]	Refractive Index	
0.59	2.625	
0.63	2.594	
1.0	2.489	
2.2	2.444	
4.0	2.433	
6.0	2.426	
8.0	2.417	
10.6	2.403	
16.0	2.356	
Density	5.27g/cm ³ (25°C)	
Thermal Conductivity	18W⋅m ⁻¹ K ⁻¹ (23°C)	
Thermal Expansion Coefficient	7.1×10 ⁻⁶ /°C(0°C)	