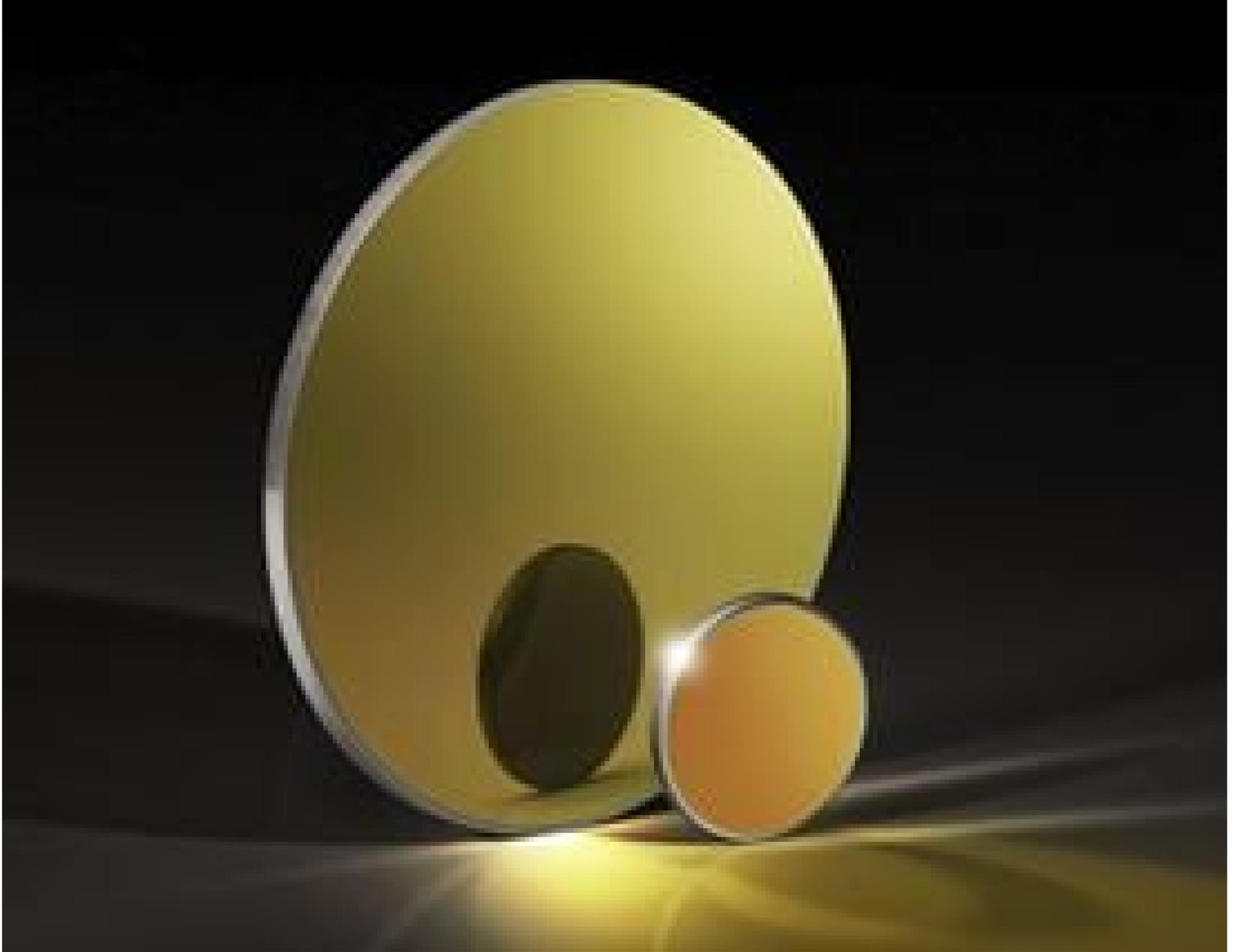


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# 38.1mm Dia. x 2mm Thick, 3-5µm AR Coated & DLC Coated, ISP Optics Silicon (Si) Window | DLC35-SI-W-38-2

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Diamond-Like Carbon (DLC) Coated Silicon Windows

Stock **#24-647** CLEARANCE **5 In Stock**

⊖ 1 ⊕ **A\$699<sup>20</sup>**

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Product Downloads

**General**

DLC35-SI-W-38-2 **Model Number:**

Protective Window **Type:**

Arrow on substrate edge points towards DLC coated surface **Note:**

## Physical & Mechanical Properties

32.38 **Clear Aperture CA (mm):**

38.10 +0.00/-0.13 **Diameter (mm):**

2.00 ±0.13 **Thickness (mm):**

<3 **Parallelism (arcmin):**

Protective as needed **Bevel:**

85 **Clear Aperture (%):**

Fine Ground **Edges:**

0.27 **Poisson's Ratio:**

140 **Young's Modulus (GPa):**

1,150.00 **Knoop Hardness (kg/mm<sup>2</sup>):**

## Optical Properties

S1: DLC Coating  
S2: BBAR (3000-5000nm) **Coating:**

[Silicon \(Si\)](#) **Substrate:** □

3.422 @ 5µm **Index of Refraction (n<sub>d</sub>):**

40-20 **Surface Quality:**

AR: R<sub>avg</sub> ≤ 0.5% @ 3000 - 5000nm **Coating Specification:**

3000 - 5000 **Wavelength Range (nm):**

M10 @ 10.6µm **Surface Flatness (P-V):**

AR: -80 to +160 per MIL-C-48497C  
DLC: -80 to +160 per MIL-C-48497C **Coating Temperature (°F):**

## Material Properties

2.33 **Density (g/cm<sup>3</sup>):**

2.55 **Coefficient of Thermal Expansion CTE (10<sup>-6</sup>/°C):**

## Environmental & Durability Factors

AR: Moderate, per MIL-C-48497C  
DLC: Severe, per MIL-C-48497C **Coating Abrasion:**

AR: per MIL-C-48497C  
DLC: per MIL-C-48497C **Coating Adhesion:**

AR: 24 Hours per MIL-C-48497C  
DLC: 24 Hours per MIL-C-48497C **Coating Humidity:**

AR: N/A  
DLC: ≥72 Hours per MIL-C-675 **Coating Salt Spray:**

AR: N/A  
DLC: ≥24 Hours Immersion per MIL-C-675C **Coating Salt Solubility:**

AR: per MIL-C-48497C  
DLC: per MIL-C-48497C **Coating Solubility and Cleaning:**

AR: N/A  
DLC: ≥1,000 Wipes of Sand/Slurry per TS-1888 **Coating Wiper Durability:**

## Regulatory Compliance

[Compliant](#) **RoHS 2015:**

[View](#) **Certificate of Conformance:**

[Compliant](#) **Reach 240:**

## Product Details

- Meets Severe Abrasion Requirements of MIL-F-48616 and MIL-C-48497C
- High Transmission from 3 – 5µm
- Ideal for Harsh Environments
- [Diamond-Like Carbon \(DLC\) Coated Germanium Windows](#) Also Available

ISP Optics Diamond-Like Carbon (DLC) Coated Silicon Windows provide anti-reflection coating on one surface and a specially designed DLC coating on the other surface, making these windows highly durable and ideal for harsh environments. The DLC Coated surface is designed to withstand temperature cycling from -80 to +160°F, salt spray for a continuous period of 72 hours, and 1,000 wiper oscillations in a sand and slurry mixture. Further, these windows meet the MIL-F-48616 and MIL-C-48497C requirements for severe abrasion. Silicon features a Knoop Hardness of 1150 and low density, making it tougher than germanium substrates and suitable for weight-sensitive applications, respectively. ISP Optics Diamond-Like Carbon (DLC) Coated Silicon Windows are engineered for 3 to 5µm, making them ideal for infrared defense applications such as thermal imaging.

## Technical Information

Specification	AR Coating	DLC Coating
Adhesion	per MIL-C-48497C	per MIL-C-48497C
Abrasion	Moderate, per MIL-C-48497C	Severe, per MIL-C-48497C
Humidity	24 Hours per MIL-C-48497C	24 Hours per MIL-C-48497C
Salt Solubility	-	≥24 Hours Immersion per MIL-C-675C
Salt Spray	-	≥72 Hours per MIL-C-675
Temperature (°F)	-80 to +160 per MIL-C-48497C	-80 to +160 per MIL-C-48497C
Solubility and Cleaning	per MIL-C-48497	per MIL-C-48497
Wiper	-	≥1,000 Wipes of Sand/Slurry per TS-1888
Coating Temperature (°F)	-80 to +160 per MIL-C-48497C	-80 to +160 per MIL-C-48497C

## 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

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).