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TECHSPEC® 12.5mm Dia. x 2mm Thick, 8-12µm AR Coated, Ge Window

Germanium (Ge) Windows

Stock **#47-686** **20+ In Stock**

- 1 + **€590**.00

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Volume Pricing	
Qty 1+	**€590,00** each
Need More?	Request Quote

Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:
Protective Window

Type of Window:
Crystal

Physical & Mechanical Properties

Clear Aperture CA (mm):
11.25

Diameter (mm):

12.50 +0.0/-0.1

Thickness (mm):
2.00 ±0.1

Parallelism (arcmin):
<1

Dimensional Tolerance (mm):
+0.0/-0.1

Bevel:
Protective as needed

Clear Aperture (%):
90.00

Edges:
Fine Ground

Poisson's Ratio:
0.28

Young's Modulus (GPa):
102.7

Knoop Hardness (kg/mm^2):
780.00

Optical Properties

Coating:
BBAR (8000-12000nm)

Substrate:
Germanium (Ge)

Index of Refraction (n_d):
4.002 @ 11µm

Surface Quality:
60-40

Coating Specification:
R_{avg} <3.0% @ 8 - 12µm

Wavelength Range (nm):
8000 - 12000

Surface Flatness (P-V):
λ/10 @ 10.6µm

Material Properties

Density (g/cm^3):
5.33

Coefficient of Thermal Expansion CTE (10^{-6}/°C):
6.1

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

REACH 241:
Compliant

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

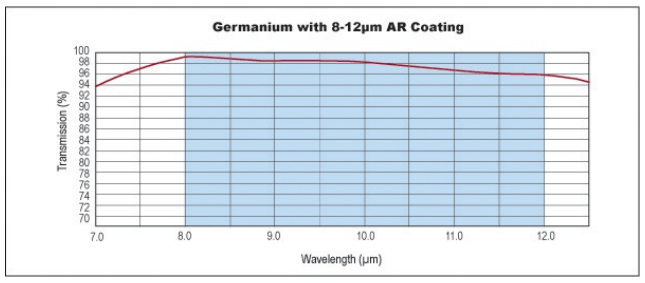
Learn more about our custom manufacturing capabilities or submit an inquiry here.

Product Details

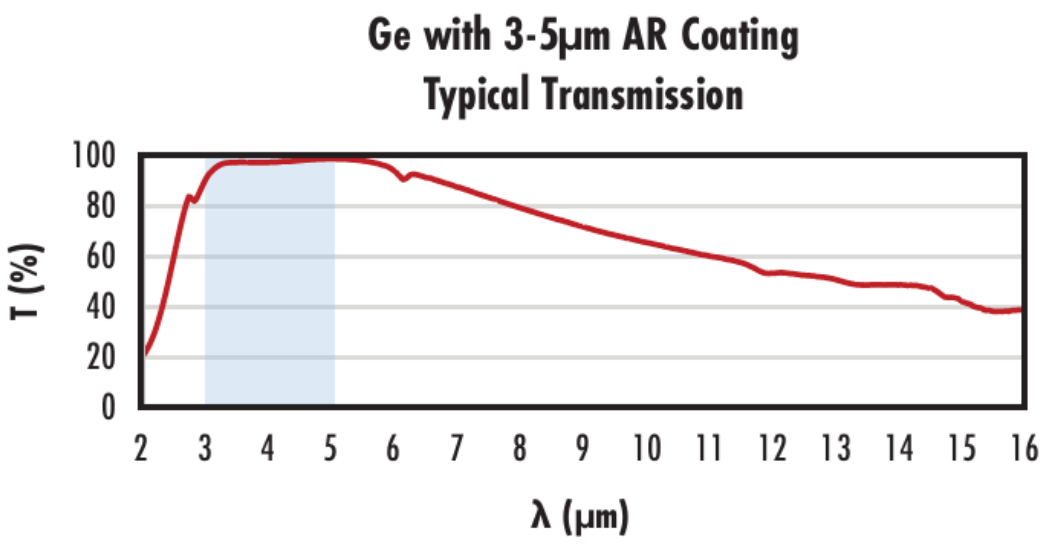
- Uncoated or with AR Coatings Designed for a Variety of IR Ranges
- Minimal Chromatic Aberration Due to Low Dispersion
- Ideal for Infrared Applications Requiring Rugged Optics
- **DLC Coated Germanium Windows** are also Available
- Due to material supply chain disruptions with germanium, there may be increased lead times and price changes on our germanium products. For more information, please contact our **customer service team.**
- Edmund Optics has limited remaining inventory of this part number and no raw material available to supply more once this is depleted. Please contact our Product Support Engineers to help with an alternate solution for your needs. Customer Service can provide you the latest price and availability.

TECHSPEC® Germanium (Ge) Windows are available off-the-shelf with three anti-reflection coating options: 3 - 5µm for mid-infrared applications, 3 - 12µm for broadband multispectral applications, or 8 - 12µm for thermal imaging applications. Due to its high index of refraction (around 4.0 from 2 - 14µm), an anti-reflection coating is recommended on these germanium windows for sufficient transmission in the region of interest. Germanium is subject to thermal runaway, meaning the transmission decreases as temperature increases. As such, TECHSPEC Germanium (Ge) Windows should be used at temperatures below 100°C. Germanium's high density (5.33 g/cm3) should be considered when designing for weight-sensitive systems. The Knoop Hardness of germanium (780) is approximately twice that of magnesium fluoride, making it ideal for infrared applications requiring rugged optics.

Technical Information



AR COATED GERMANIUM



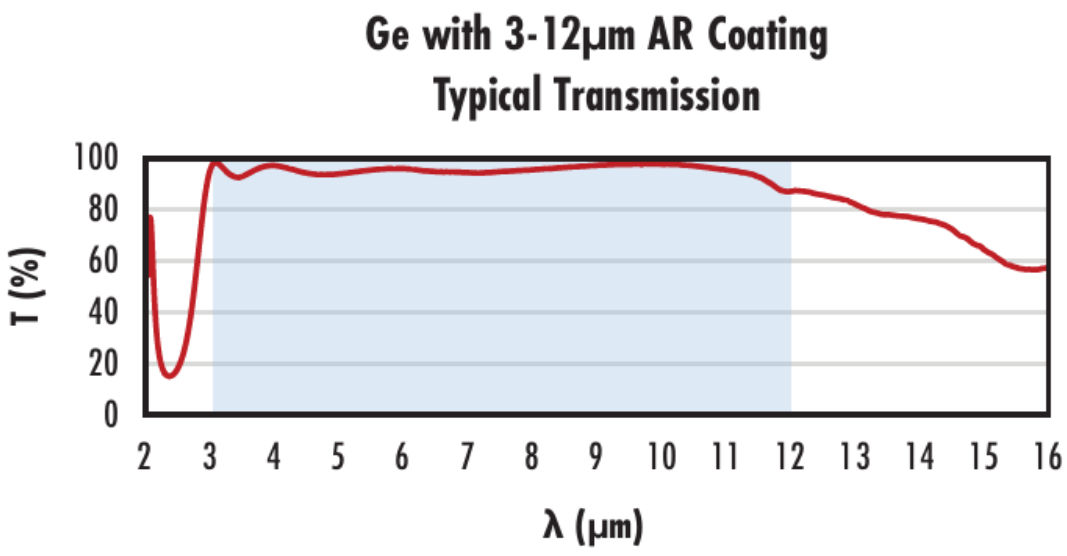
Typical transmission of a 3mm thick Ge window with BBAR (3000-5000nm) coating at 0° AOI.

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

R_{avg} <3% @ 3000 - 5000nm

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

Click Here to Download Data



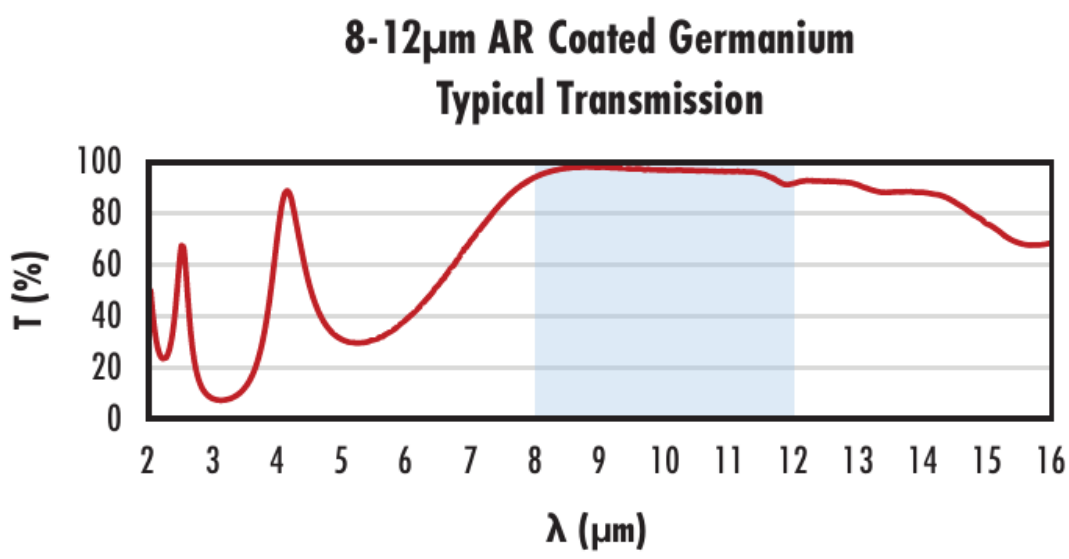
Typical transmission of a 3mm thick Ge window with BBAR (3000-12000nm) coating at 0° AOI.

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

R_{avg} <5.0% @ 3 - 12µm

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

Click Here to Download Data



Typical transmission of a 3mm thick Ge window with BBAR (8000-12000nm) coating at 0° AOI.

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

R_{avg} <3.0% @ 8 - 12µm

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

Click Here to Download Data

Special Handling

Germanium Optics Handling and Cleaning Guidelines

Germanium optics require special handling and cleaning procedures. Always wear gloves during handling to prevent contamination, and wash hands afterward. Avoid contact between Germanium dust and the eyes, skin, or clothing. When not in use, store optics sealed and covered at temperatures between 20°C and 25°C. Do not expose them to temperatures exceeding 100°C when in use.

Handling Guidelines

- Always wear **gloves** to prevent damage from skin oils.
- If Germanium dust is present, take the following precautions:
  - Wear safety glasses to protect eyes.
  - Use a dust mask or face mask to avoid inhalation.
  - Wear **gloves** to prevent skin contact.
- Maintain storage temperature between 20°C and 25°C with humidity below 30%.
- Wrap Germanium optics in a **lens cloth** or **pouch** and seal in a **container** when not in use.

- Germanium is brittle and heavy—always place it on soft surfaces and avoid dropping it.

Approved Cleaning Solvents

- Ethanol
- Isopropyl Alcohol
- Methanol
- Reagent-Grade Acetone
- Liquid CO_2
- **Shop Now**

Compatible Mounts

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