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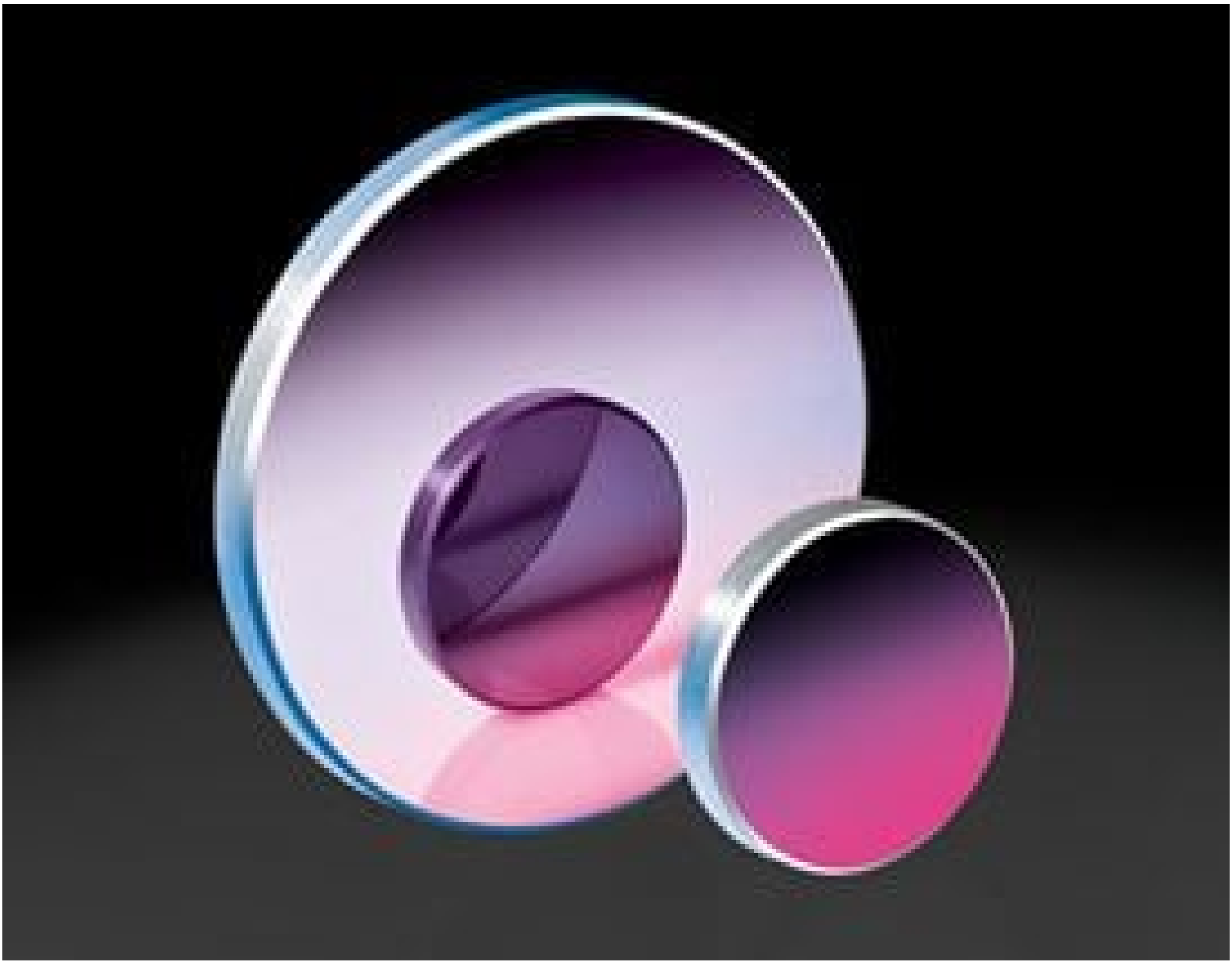
TECHSPEC® 12.5mm Dia. x 20mm FL, Uncoated, Ge Plano-Convex Lens



Stock **#25-552** CLEARANCE **20+ In Stock**

- 1 + **€365**.00

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Volume Pricing	
Qty 1+	**€365,00** each
Need More?	Request Quote

Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:
Plano-Convex Lens

Physical & Mechanical Properties

Diameter (mm):
12.50 +0.0/-0.1

Centering (arcmin):
<3

Center Thickness CT (mm):
1.40 ±0.10

Edge Thickness ET (mm):
1.07

Clear Aperture CA (mm):
11.25

Bevel:
Protective as needed

Optical Properties

Effective Focal Length EFL (mm):
20.00 @ 10.6µm

Back Focal Length BFL (mm):
19.65

Coating:
Uncoated

Substrate:
Germanium (Ge)

Surface Quality:
60-40

Radius R_1 (mm):
60.08

f/#:
1.60

Numerical Aperture NA:
0.31

Wavelength Range (nm):
2000 - 14000

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

REACH 241:
Compliant

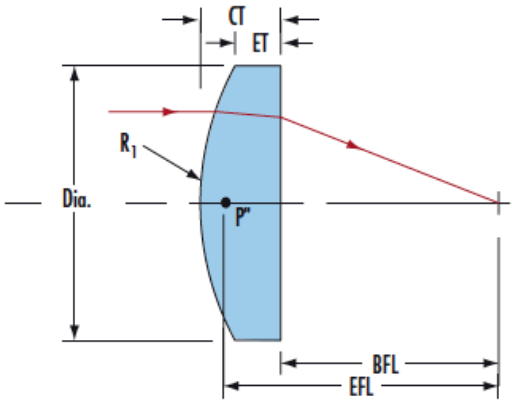
Product Details

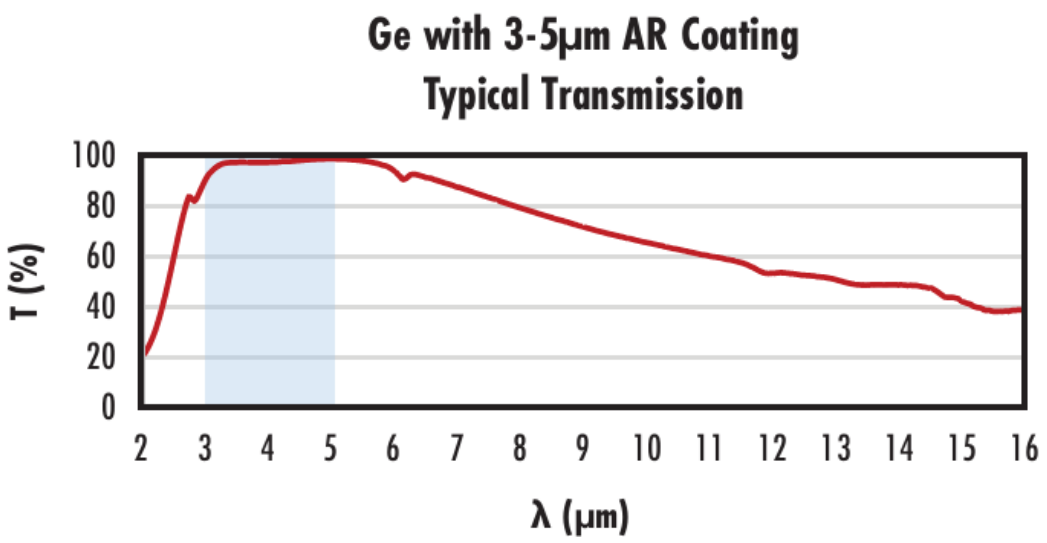
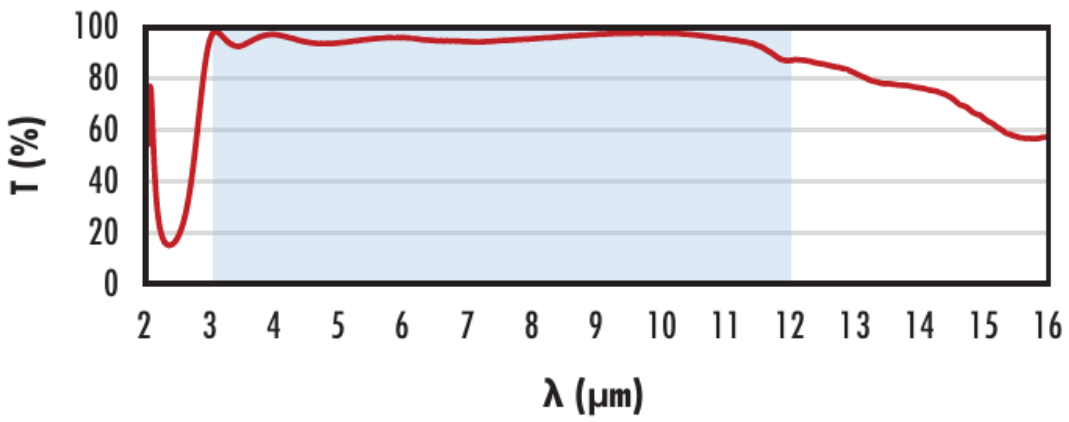
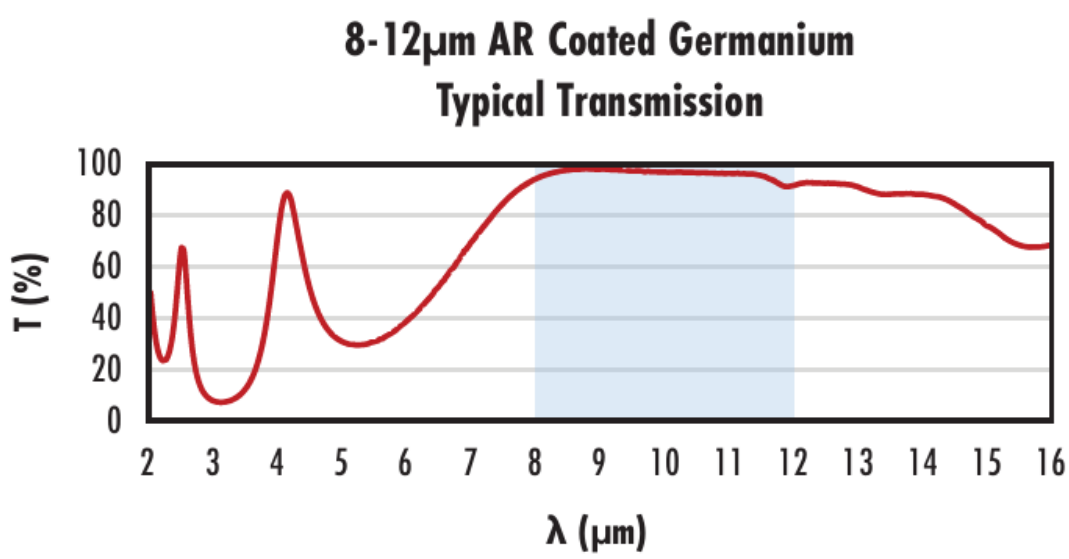
- Available Uncoated or Coated for 3 - 5, 3 - 12, and 8 - 12µm
- Minimal Chromatic Aberration Due to Low Dispersion
- Ideal for Defense, Security, and Thermal Imaging Applications
- Additional **Infrared Lenses** Available in Popular Substrates
- Due to material supply chain disruptions with germanium, 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) Plano-Convex (PCX) Lenses feature precision diamond turned substrates that are available uncoated or with a variety of broadband anti-reflection (AR) coatings from 3 – 12µm. Germanium is chemically inert and insoluble in water with a Knoop Hardness of 780, making it ideal for defense, security, and thermal imaging applications requiring rugged optics. However, germanium is subject to thermal runaway and should be used at temperatures below 100°C to ensure optimal transmission. TECHSPEC® Germanium (Ge) Plano-Convex (PCX) Lenses are available in 12.5, 25 and 50mm diameters. Germanium's high index of refraction (4.003) yields significant Fresnel reflection loss without anti-reflection coatings. TECHSPEC® Germanium (Ge) Plano-Convex lenses are available uncoated or with multiple Broadband Anti-Reflection (BBAR) coatings for enhanced transmission in the Mid-Wave Infrared (MWIR) and Long-Wave Infrared (LWIR).

For more information on Germanium properties, please review our guide to selecting **The Correct Material for Infrared (IR) Applications**.

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**

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.**

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