GERMANIUM (Ge) COMPONENTS

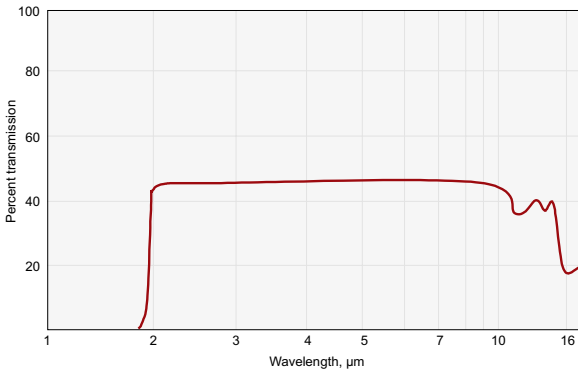
Features

- Wide IR transmission range covering 1.8 – 16 µm
- Opaque in the visible range

Ge based optical components are widely used for IR applications. Ge is well suited for manufacturing windows and lenses for IR applications in lasers and optical systems. Ge components are used with AR coatings because of high surface reflectivity of substrate.

The high refractive index ensures an exceptional single wavelength performance for a "best form" singlet constructed from germanium.

Ge lenses, Brewster windows, mirrors and beamsplitters are available upon request.



External transmission for Ge window of 10 mm thickness

Physical properties

Crystal type	cubic
Lattice constant, Å	a = 5.657
Density, g/cm³	5.33
Melting point, °C	936
Refractive index @ 10.6 µm	n = 4.0034
Transmission band, µm	1.8 – 17

Specifications

Material	optical quality Ge crystal ($\Delta n/cm < 0.5\times10^{-5}$)
Surface quality	60 – 40 scratch & dig (MIL-PRF-13830B)
Clear aperture	80% of the diameter
Diameter tolerance	+0.0 / -0.1 mm
Thickness tolerance	±0.2 mm
Surface flatness	< 1.5 λ per inch @ 633 nm
Parallelism	< 3 arcmin

Coating	Diameter, mm	Thickness, mm	Catalogue number	Price, EUR
uncoated	25.4	3.0	580-6023	99
	38.1	4.0	580-6034	210
	50.8	5.0	580-6055	299
AR/AR @ 10.6 µm	25.4	3.0	580-6123	159
	38.1	4.0	580-6134	269
	50.8	5.0	580-6155	370

Please contact us for other sizes or required specifications of coating.

Housing accessories

Kinematic Mirror and Beamsplitter Mount 840-0020

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