

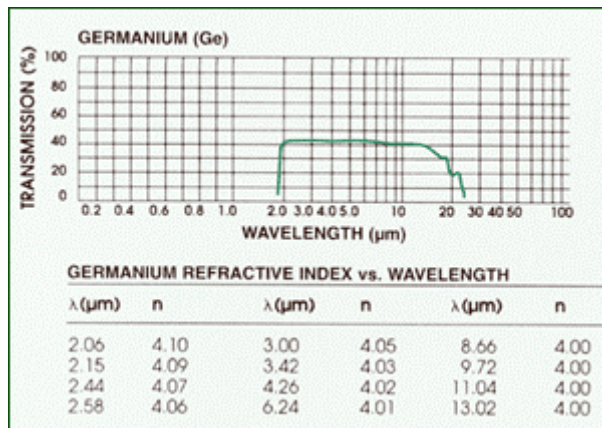
## GLOBAL OPTICS (UK) LTD

30 Brockley Road, Bournemouth  
Dorset, BH10 6JN.  
Tel: 01202 530609  
Fax: 01202 547209  
Email: [globalopticsuk@btinternet.com](mailto:globalopticsuk@btinternet.com)  
Website: [www.globalopticsuk.co.uk](http://www.globalopticsuk.co.uk)

### GERMANIUM - Ge

Germanium has a high refractive index making it essential to add anti-reflection coatings to improve its transmission. It is inert, mechanically rugged and fairly hard making it suitable for external Infrared applications with durable AR coatings. Widely used in Infrared systems and as substrates for optical bandpass filters in the region from 2-14 microns. Available as generated lens blanks, polished windows, lenses and prisms with AR coatings, including Hard Carbon coating. The transmission of Germanium is very sensitive to temperature and above 70°C becomes opaque.

Transmission Range	1.8 - 23.0 $\mu$
Crystal Structure	Diamond
Cleavage Plane	111
Colour	Metallic lustre
Density	5.327 (25°)
Melting Point (°)	942
Reflection Loss	52.9% (10 $\mu$ ) for 2 surfaces
Solubility index	Insoluble
Hardness (Knoop)	692
Thermal Conductivity (cal/cm sec°C)	0.14 (20°C)
Thermal Expansion coefficient (/°C)	5.5x10 <sup>-6</sup> (25°C)



Whilst every effort has been made to verify the data provided, no responsibility can be accepted for its accuracy

