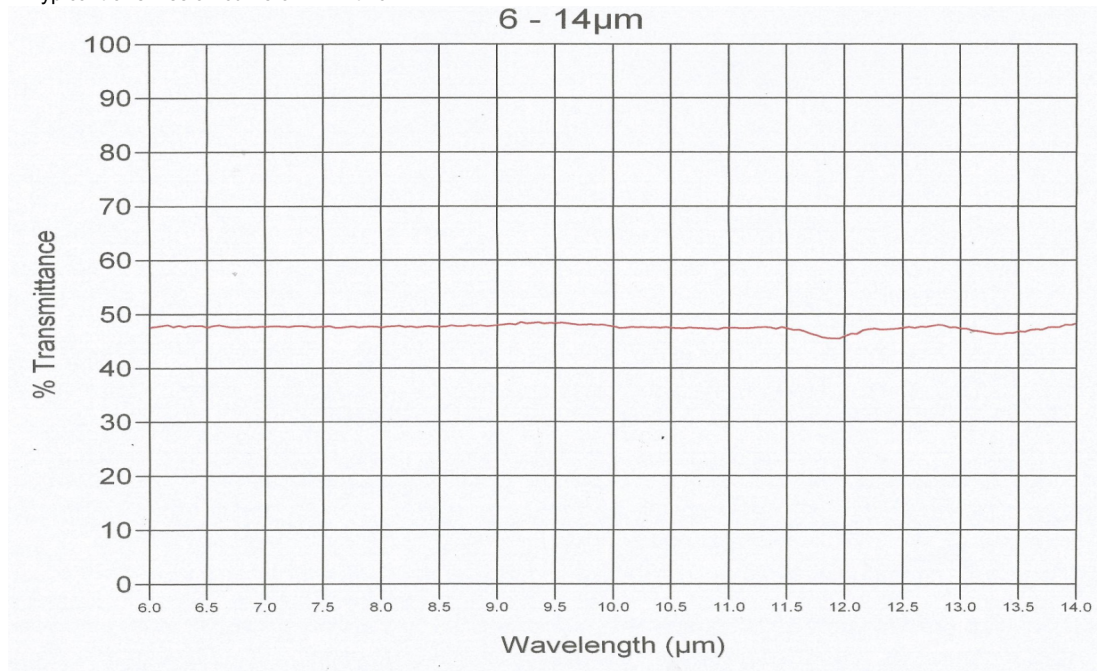


DATA SHEET
GERMANIUM UNCOATED 2MM THICK

MATERIAL: Germanium – Optical Grade - Monocrystalline
SPECTRAL DATA: Transmission $\geq 46\%$ @ 3-10 microns

Typical transmission curve of 2mm thick



Physical electronic properties:	
Atom Number	32
Atom Weight	72.6
Crystal Structure	diamond cubic
Grating Parameter, A	5.657
Density (298°K), g/cm ³	5.323
Atomic Density, atoms/cm ³	4.42*10 ²²
Melting Temperature, °C	937
Boiling Temperature, °C	2830
Specific Thermal Capacity (0-100°C), kal/g*degree	0.074
Latent Heat of Fusion, kal/mol	8100
Coefficient of Linear Thermal Expansion (293°K), cm/degree	6.1*10 ⁻⁶
Mohs Hardness	6
Band Gap, direct (300°K), e. V.	0.67
Intrinsic Carriers Concentration (300 °K), cm ⁻⁶	p,n=5.5*10 ^{26*}
Intrinsic Drift Mobility (300°K), cm ² /v.s.:	
electrones	3800*
holes	1820*
Diffusion Coefficient (300°K), cm ² /sec:	
electrones	101**
holes	49**
Intrinsic Resistivity (300°K),Ohm*cm	47
Optical Properties	
Refraction coefficient at 20 °C and $\lambda=10 \mu$ m, "n".	n=4.0032 +/- 0.0002
Homogeneity of refractive coefficient, Δn	$\leq 2 * 10^{-4}$
Temperature coefficient at 20-25 °C, dn/dT, C ⁻¹	$\leq 4 * 10^{-4}$
Absorption coefficient (extinction indicator) at $\lambda=10.6 \mu$ m, $\alpha \lambda$	$\alpha \lambda$ not more than 0.03 cm