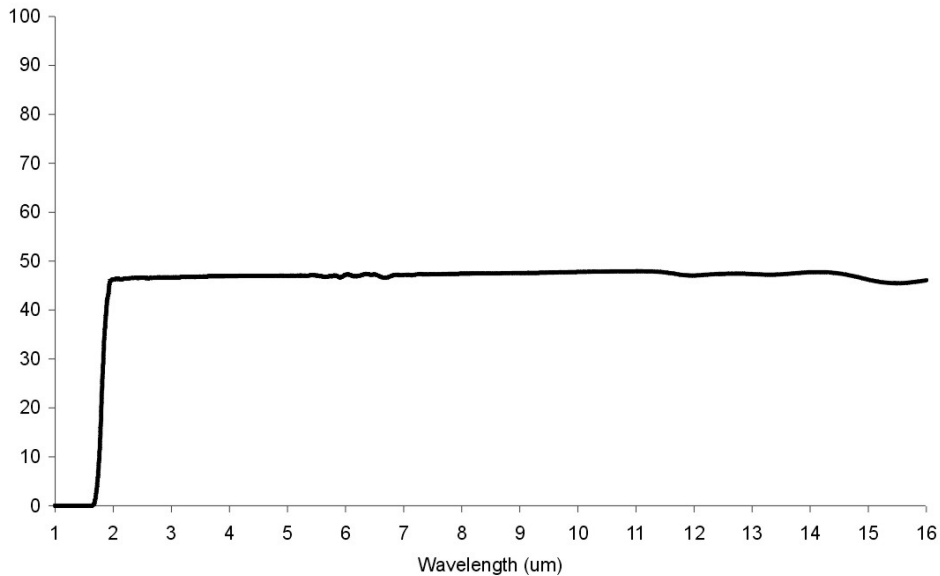


MATERIAL: Germanium – Optical Grade - Monocrystalline
SPECTRAL DATA: Transmission ≥ 46% @ 3-10 microns
Polished 10mm thick sample

Typical transmission curve of 1mm thick Germanium (mono-crystalline)



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 λ=10 μm, "n".	n=4.0032 +/- 0.0002
Homogeneity of refractive coefficient, Δn	<= 2 * 10 ⁻⁴
Temperature coefficient at 20-25 °C, dn/dT, C ⁻¹	<= 4 * 10 ⁻⁴
Absorption coefficient (extinction indicator) at λ=10.6 μm, αλ.	αλ not more than 0.03 cm

WHILE EVERY ATTEMPT HAS BEEN MADE TO VERIFY THE SOURCE OF THE INFORMATION, NO RESPONSIBILITY IS ACCEPTED FOR ACCURACY OF DATA.