

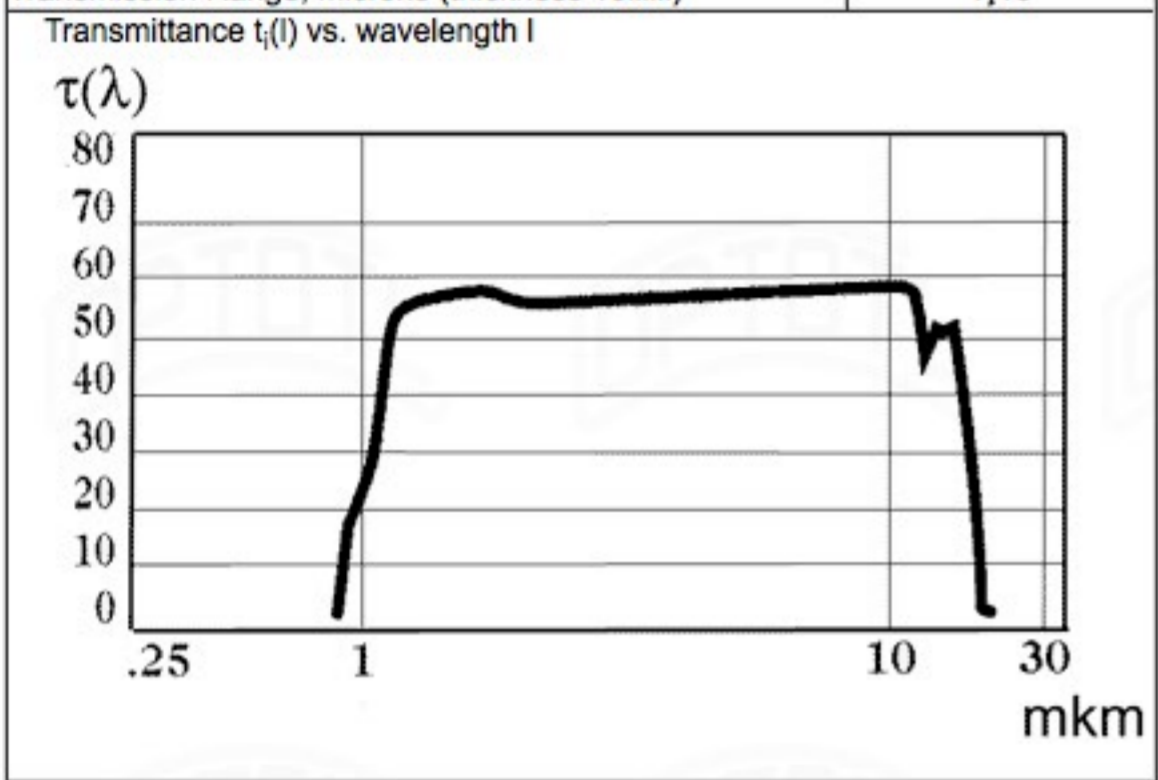
GALLIUM ARSENIDE GaAs

Crystallographic GaAs (Gallium Arsenide)

Syngony	Cubic
Symmetry Class	43m F43m
Lattice Constants, Angstroms	a=5.653 c=a
Cleavability	(111), non-perfect

Optical GaAs (Gallium Arsenide)

Refractive Index, $n_{8.0} - n_{12.5}$	3.34
Transmission Range, microns (thickness 10mm)	1, 15



Refractive Index n vs. wavelength λ GaAs (Gallium Arsenide)	
$\lambda, \mu\text{m}$	$n(\lambda)$
8.0	3.34
10.0	3.035
14.5	2.82
17.0	2.59
19.0	2.41

Thermal GaAs (Gallium Arsenide)

Thermal Linear Expansion $\alpha_t, ^\circ\text{C}^{-1}$ for 0-30 $^\circ\text{C}$	$5.39 \cdot 10^{-6}$
Thermal Conductivity, $\text{W}/(\text{m} \cdot ^\circ\text{C})$ at 25 $^\circ\text{C}$	46.05
Specific Heat Capacity, $\text{J}/(\text{kg} \cdot ^\circ\text{C})$	350
Melting Point, $^\circ\text{C}$	1238

Mechanical GaAs (Gallium Arsenide)

Density, g/cm^3 at 20 $^\circ\text{C}$	5.316
Mohs Hardness	4.5
Vickers Microhardness, Pa	$6.9 \cdot 10^9$
Poisson Ratio	0.31
Young Modulus (E), Pa	$8.5 \cdot 10^{10}$

Chemical GaAs (Gallium Arsenide)

Solubility GaAs
in water at 20 $^\circ\text{C}$
$\text{g}/100\text{cm}^3$
insoluble