

# Gallium Arsenide (GaAs)

## CRYSTALLOGRAPHIC

Syngony	Cubic
Symmetry Class	43m F43m
Lattice Constant, Angstrom	5.653

## OPTICAL

Refractive Index at $n_{8.0}$	3.2884
Transmission Range, Microns	1 - 15
Absorbance $\mu (\square)$ , cm <sup>-1</sup> at 10.6 microns	0.01

## THERMAL

Thermal Linear Expansion, deg C <sup>-1</sup> for 0-30 deg C	$5.39 \times 10^{-6}$
Thermal Conductivity, W/(m * deg C) at 25 deg C	46.05
Specific Heat Capacity, J/(kg * deg C)	350
Melting Point, deg C	1238

## MECHANICAL

Density, g/cm <sup>3</sup> at 20 deg C	5.316
Mohs Hardness	4.5

Vickers Microhardness, Pa	$6.9 \times 10^9$
Young Modulus $E$ , Pa	$85 \times 10^9$
Poisson Ratio	0.31

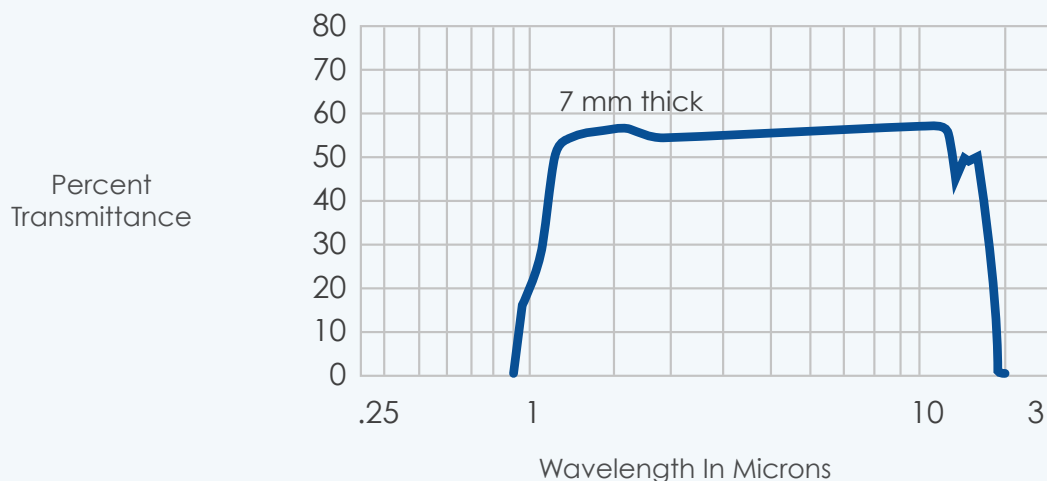
## CHEMICAL

Molecular Weight	144.64
Solubility in water, gram/100cm <sup>3</sup>	insoluble

## Refr. Index $n$ vs. Wavelength $\lambda$

WAVELENGTH, MICRONS	REFRACTIVE INDEX
7.0	3.2927
8.0	3.2884
9.0	3.2838
10.0	3.2786
11.0	3.2729
12.0	3.2667

Transmittance  $\tau$  ( $\lambda$ ) vs. Wavelength  $\lambda$



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