



Physical Parameters

Crystal structure	Zinc blende
Lattice constant (300K)	5.654 Å
Atomic density (300K)	$4.43 \times 10^{22} \text{ cm}^{-3}$
Melting point	1238 °C
Density (300K)	5.315 g cm ⁻³
Linear thermal expansion coefficient (300K)	$6.03 \times 10^{-6} \text{ K}^{-1}$
Thermal lattice conductivity (300K)	0.48 W cm ⁻¹ K ⁻¹
Specific heat (300K)	0.325 J g ⁻¹ K ⁻¹
Energy gap (300K)	1.42 eV
Electron mobility (300K)	8800 cm ² V ⁻¹ s ⁻¹
Hole mobility (300K)	450 cm ² V ⁻¹ s ⁻¹
Effective electron mass	0.068 m ₀
Intrinsic electron concentration	$1.8 \times 10^6 \text{ cm}^{-3}$
Intrinsic resistivity (300K)	$3.8 \times 10^8 \text{ } \Omega \text{ cm}$
Static electric constant (300K)	12.85
Optic electric constant (300K)	10.88
Elastic constants	
C ₁₁	$11.88 \times 10^{10} \text{ Pa}$
C ₄₄	$5.94 \times 10^{10} \text{ Pa}$
C ₁₂	$5.38 \times 10^{10} \text{ Pa}$
Mohs hardness	4.5
Knoop hardness	$7.35 \times 10^9 \text{ Pa}$
Vickers hardness for (0.05 .. 1) N	$6.52 \times 10^9 \text{ Pa}$
Surface energy	
{ 100 }	$220 \times 10^{-6} \text{ J cm}^{-2}$
{ 110 }	$150 \times 10^{-6} \text{ J cm}^{-2}$
{ 111 }	$130 \times 10^{-6} \text{ J cm}^{-2}$

