

High Resistivity Silicon (Si)

Custom sizes and specifications are available

RESISTIVITY > 10,000 ohm cm

CRYSTALLOGRAPHIC

Syngony Cubic
Symmetry Class m3m
Lattice Constants, Angstrom a=5.43089

OPTICAL

Refractive Index at $n_{3,0}$ 3.430
Refractive Index at $n_{5,0}$ 3.420
Thermal Coefficient of Refractive Index at 25 deg C 1.50×10^{-4}
Transmission Range, microns 1.2-10, 50-100

THERMAL

Thermal Linear Expansion, deg C⁻¹ for 25 deg C 2.55×10^{-6}
Thermal Conductivity, W/(m•deg C) at 27 deg C 159
Specific Heat Capacity (solid), J/(kg•deg C) 0.712×10^3
Melting Point, deg C 1412

MECHANICAL

Density, g/cm³ at 20 deg C 2.329
Mohs Hardness 7
Young Modulus (E), Pa 1.89×10^{10}
Shear Modulus (G), Pa 7.99×10^{10}
Poisson Ratio 0.266

CHEMICAL

Molecular Weight 28.09
Solubility in water, gram/100 cm³ insoluble

Refr. Index n vs. Wavelength λ

WAVELENGTH, MICRONS	REFRACTIVE INDEX
3.00	3.430
3.25	3.428
3.50	3.427
3.75	3.425
4.00	3.423
4.25	3.422
4.50	3.421
4.75	3.421
5.00	3.420

Transmittance τ (λ) vs. Wavelength λ

