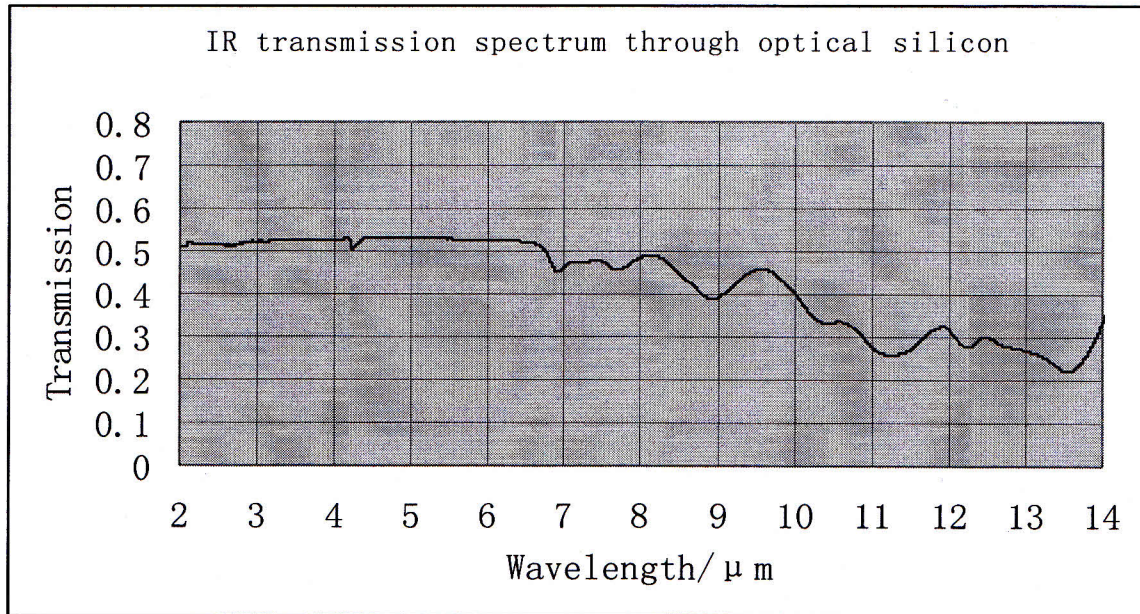


KIRO

Kunming Infrared Optics

Silicon for Infrared Optics

	Refractive Index n(293K)	λ (μm)	n
		1.4	3.4900
		2.0	3.4561
		3.0	3.436
		4.0	3.4289
		5.0	3.4256
		6.0	3.4238
		7.5	3.4224
		9.0	3.4216
	Temperature coefficient of refractive index(293 K)	dn/dt	0.0004 K ⁻¹
Optical Properties	transmittance	λ (μm)	Transmission (%)
	(Diameter:25.4 mm, thickness:3 mm)	2	52.5
		3	53.4
		4	53.7
		5	53.8
		6	52.6
		7	46.5
		8	49.1
		9	39.7
		10	40
	11	28.3	
	12	30	



Thermal Properties	Melting point	1685	K
	Specific heat capability (273~373 K)	712	J/(kg · °C)
	Thermal conductivity (27°C)	159	W/(cm · °C)
	Linear thermal expansion coefficient	2.55×10^{-6}	K ⁻¹
Mechanical Properties	Density (298K)	2.33	g/cm ³
	Young's Modulus	1.89×10^{10}	Pa
	Modulus of Rupture	125	MPa
	Poisson's Ratio	0.266	
Products Materials specification	Purity	>99.999%	
	Crystal structure	Monocrystalline	
	Conductivity type	N or P	
	Orientation	<110><111>	
	Resistivity	$\geq 5 \text{ Ohm} \cdot \text{cm}$	
	Diameter	up to 250 mm	
	Flatness	10 μm	
	Perpendicularity	<5'	

Bevelling	0.2~1 mm	
Edge chips	≤0.5 mm	
Edge Thickness Variation	≤0.05 mm	
Tolerance	Diameter	±0.010 mm
	Length & Width	± (0.005~0.1) mm
	Thickness	±0.025 mm
Surface Quality	Polished	

Germanium ingots

Coated & Uncoated lens

Products

Lens blanks

Formats

Window blanks

Assembled lens

Spherical & Aspherical lens
