



Certificate of Compliance

Material	monocrystalline silicon
Purity	>99.99999%
Growth method	FZ;
Conduction Type	N type
Orientation	<100>+/-1°
Resitivity	>100 ohm.cm
Transmittance	T>53%@3-5um through Thickness 10mm sample
Lattice Constant	5.42*10-10 meter
Dislocation density	No
Mohs'number	7.0
Density	2.33g/cm3
Melting Point	1410 C ±5
Dissolve	Dissolved in a mixture of hydrofluoric acid and nitric acid
Linear Expansion Coefficient:	(2~9) ×10-6 K-1
Coefficient of thermal expansion	2.5(T=300K)
Refractive index	3.42
Oxygen Concentration(1/cm3)	≤1×10E16
Carbon Concentration(1/cm3)	≤1×10E15
Doping Element Concentration (1/cm3)	3×10E17

Inspector:

Date : 2020-11-06



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Optical Properties

Transmission Range		1.2-8um	
Reflection loss, for two surfaces at 5um		46.20%	
Refractive Index		See Below	
Wavelength(um)	Refractive Index(n)	Wavelength(um)	Refractive Index(n)
1.357		5.500	3.4213
1.3951	3.4975	6.000	3.4202
1.6606	3.4929	6.500	3.4195
1.8131	3.4608	7.000	3.4189
2.1526	3.4476	7.500	3.4186
2.3254	3.4975	8.000	3.4184
3.000	3.443	8.500	3.4182
3.500	3.432	10.00	3.4179
4.000	3.4257	10.05	3.4178
4.500	3.4236	11.04	3.4186
5.000	3.4223		