

Optical Grade Silicon Wafers

Product Description:

Although silicon is primarily for semiconductor applications, it is also the most economic IR material. Silicon can be produced as either mono or polycrystalline form by Czochralski crystal growth method or float zone method. CZ Silicon is cheaper. But it contains some oxygen that induces an absorption band at 9 microns. Optical grade silicon is generally lightly doped, and has a very good transmission from 1.2µm to 7µm. Dopant is usually boron (p-type) or phosphorus (n-type), and both types are acceptable for IR applications.

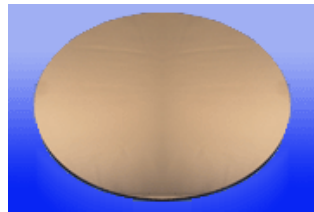


Figure 1: Optical Grade Silicon Wafer

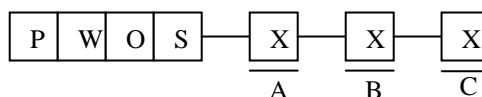
Specifications:

Crystal Growth Method	Czochralski (CZ) or float zone (FZ) method	
Orientation	<111>, <100> or random Orientation	
Diameter	2 inches, 3 inches, 5 inches, 6 inches	
P type	Dopant	Typical Boron
	Resistivity	Typical 5 ~ 100 ohm/cm
N type	Dopant	Typical Phosphorus
	Resistivity	Typical > 50 ohm/cm
Thickness	500±30µm, 1000±50µm	
Surface Quality	40/20	

Applications:

1. IR Lenses and windows
2. Mirror Substrates

Ordering Information:



A	Orientation	1 = Random Orientation
		2 = <111>
		3 = <100>
		0= Customized orientation
B	Diameter	1 = 2 inch
		2 = 3 inch
		3 = 5 inch
		4 = 6 inch
		0= Customized diameter
C	Thickness	1 = 500μm
		2 = 1000μm
		0= Customized thickness