Sapphire Wafers

Product Description:

Sapphire is a material of a unique combination of physical, chemical and optical properties, which make it resistant to high temperature, thermal shock, water and sand erosion, and scratching. It is a superior window material for many IR applications from 3μm to 5μm. C-plane sapphire substrates are widely used to grow III-V and II-VI compounds such as GaN for blue LED and laser diodes, while R-plane sapphire substrates are used for the hetero-epitaxial deposition of silicon for microelectronic IC applications.

Figure 1: Sapphire Wafers

Features:

- All orientations are available, custom orientation is welcome
- Wafer size from 2 to 6 inches are available for all types
- Thin wafer down to 250um for 2 inch, 300um for 4 inch and 300um for 6 inch

Specification:

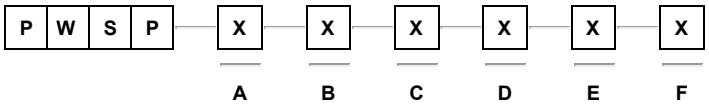
Orientation	**R-plane, C-plane, A-plane, M-plane or a specified orientation**
Orientation Tolerance	**± 0.3°**
Diameter	**2 inches, 3 inches, 4 inches, 6 inches, 8 inches or others**
Diameter Tolerance	**0.1mm for 2 inches, 0.2mm for 3 inches, 0.3mm for 4 inches, 0.5mm for 6 inches**
Thickness	**0.25mm, 0.33mm, 0.43mm, 0.65mm, 1mm or others;**
Thickness Tolerance	**25μm**
Primary Flat Length	**16.0±1.0mm for 2 inches, 22.0±1.0mm for 3 inches, 30.0±1.5mm for 4 inches, 47.5/50.0±2.0mm for 6 inches**
Primary Flat Orientation	**A-plane (1 1-2 0) ± 0.2°; C-plane (0 0-0 1) ± 0.2°, Projected C-Axis 45 +/- 2°**
TTV	**≤10μm for 2 inches, ≤15μm for 3 inches, ≤20μm for 4 inches, ≤25μm for 6 inches**
BOW	**≤10μm for 2 inches, ≤15μm for 3 inches, ≤20μm for 4 inches, ≤25μm for 6 inches**
Front Surface	**Epi-Polished (Ra< 0.3nm for C-plane, 0.5nm for other orientations)**
Back Surface	**Fine ground (Ra=0.6μm~1.4μm) or Epi-polished**
Packaging	**Packaged in a class 100 clean room environment**

Applications:

- Growth substrate for III-V and II-VI compounds
- Electronics and optoelectronics
- IR applications
- Silicon On Sapphire Integrated Circuit(SOS)
- Radio Frequency Integrated Circuit(RFIC)

20X22mm C-plane sapphire substrate in stock, thickness: 0.2mm, double side polished, PWSP-1BF642 ($85.0):

Ordering Information:



A	Orientation	1 = C-plane
		2 = R-plane
		3 = A-plane
		4 = M-plane
		5 = C-plane off M-plane 0.25°
		6 = C-plane off M-plane 0.2°
		0 = Custom Orientation
B	Diameter	1 = 50.8mm
		2 = 76.2mm
		3 = 100mm
		4 = 150mm
		0 = Custom Diameter
C	Thickness	1 = 250µm
		2 = 325µm
		3 = 430µm
		4 = 500µm
		5 = 550µm
		6 = 650µm
		7 = 330µm
		8 = 525µm
		9 = 2000µm
		A = 1000µm
		0 = Custom Thickness
D	Primary Flat Orientation	1 = A-Plane
		2 = C-Plane
		3 = Projected C-Axis 45 +/- 2 degree
		0 = Custom Flat Orientation
E	Primary Flat Length	1 = 16mm
		2 = 22mm
		3 = 32.5mm
		4 = 47.5mm
		0 = Custom Flat Length
F	Single or Double side polished	1 = Single side polihsed
		2 = Double Side Polished