

Zirconia(ZrO₂)

Zirconia(ZrO₂) single crystal wafer is one of the most early high temperature superconducting substrate. Because Zirconia needs to be doped with yttrium to stable its structure, normally the dopped yttrium dopped Zirconia(YSZ) single crystal is used. The mechanical stability and chemical stability of YSZ is excellent, and it has relatively lower price, which is especially applicable in making positive film.



PARAMETERS

| | |
|---------------------------|--|
| Crystal Structure | Cubic |
| Growth Method | Electric-Arc fusion Method |
| Lattice Constant | a=5.147Å |
| Melting Point | 2700℃ |
| Density | 6.0 (g/cm ³) |
| Mhos Hardness | 8-8.5 (mohs) |
| Purity | 99.99% |
| Thermal Expansion | 10.3×10 ⁻⁶ /K |
| Dielectric Constant | ε=27 |
| Dimension | 10×3mm, 10×5mm, 10×10mm, 15×15mm, 20×15mm, 20×15mm According to customer needs, substrates with special orientation and size can be customized. |
| Thickness | 0.5mm,1.0mm |
| Dimensional Tolerance | <±0.1mm |
| Thickness Tolerance | <±0.015m, ±0.005mm for special needs > |
| Polishing | One side or two sides |
| Orientation | <100>、<110>、<111> etc. |
| Orientaion Tolerance | ±0.5° |
| Edge Orientation Accuracy | 2° (Special requirements can reach within 1°) |
| Chamfered Wafer | According to specific requirements, wafers with edge-oriented crystal planes inclined at a specific angle (inclination angle 1°-45°) can be processed. |
| Package | Class 100 clean bag, Class 1000 super clean room |