



YSZ Yttrium zirconia :

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Zirconia (ZrO₂) single crystal substrate is one of the earliest high-temperature superconducting substrates developed and applied. Due to the need for ZrO₂ to be doped with yttrium (Y) to stabilize its structure, YSZ single crystals - zirconia single crystals with yttrium stabilizers - are generally used in practice. It has good mechanical and chemical stability, low price, and is particularly suitable for use in the preparation of positive films.

Materials properties:

Crystal structure	cube
Lattice constant	a=5.147 Å
Melting point (°C)	2700
Density (g/cm ³)	6.0
Hardness	8-8.5 (mohs)
Fineness	99.99%
Thermal expansion coefficient (°C)	10.3×10 ⁻⁶
Dielectric constant	ε=27
Growing directions	Arc melting method
Size	10x3,10x5,10x10,15x15,, 20x15,20x20, or custom-made
	dia 2" x 0.33mm dia2" x 0.43mm 15 x 15 mm
Thickness	0.5mm , 1.0mm
Polishing	Single or double-sided
Crystal orientation	<001>±0.5°
Crystal face orientation precision:	±0.5°
Edge orientation precision:	2° (up to 1°)
Slant chip	The wafer with edge-oriented surfaces (1° -45°) can be
Ra:	≤5Å (5μm×5μm)
Package	100 clean bag, 1000 ultra-clean room