

Magnesium Oxide (MgO)

Magnesium oxide (MgO) single crystal substrates are widely used in many thin film technology fields. Such as the production of magnetic films, semiconductor films, optical films and high-temperature superconducting films. Because the dielectric constant and loss of MgO single crystal in the microwave band are very small, and large-area substrates (2 inches in diameter and larger) can be obtained, it is an important high-temperature superconducting thin-film single crystal substrate for the current industrialization. one. It can be used to make high-temperature superconducting microwave filters and other devices required by mobile communication equipment, and has a large realistic and potential application market.



PARAMETERS

Growth Method	Special Arc Melting
Crystal Structure	Cubic
Lattice Constant	a=4.130 Å
Melting Point	2800°C
Purity	99.95%
Density	3.58 (g/cm ³)
Mohs Hardness	5.5 (mohs)
Thermal Expansion	11.2x10 ⁻⁶ /K
Cleavage Plane	<100>
Transmittance	>90% (200~1000nm)
Dielectric Constants	ε= 9.65
Thermal Conductivity	36 W/mk @ 300°K
Dimension	5x5mm, 10x10mm, 20x20mm, 30x30mm ,Ø50.8 mm
Thickness	0.5mm, 1.0mm
Polishing	One side or two sides
Orientation	<001>,<110>,<111>
Crystal Plane Orientation Accuracy	±0.5°
Edge Orientation Accuracy	2° (Special requirements can reach within 1°)
Surface Roughness	Ra≤5Å (5×5μm)
Package	Class 100 clean bag, Class 1000 super clean room