

LaSrAlO₄

Strontium Lanthanum Aluminate (LaSrAlO₄) Crystal Substrate



DESCRIPTION

Lanthanum strontium aluminate crystal melting temperature from a low temperature until no twinning and phase change, with the high temperature superconductor YBCO have the same structure, <001> plane as compared with other substrate and YBCO <001> lattice mismatch with moderate (2.5 to 3.5%), while the thermal expansion coefficient of the crystal compared to other low crystalline perovskite structure can be deposited at a lower temperature so as to improve the film lattice mismatch and reduce stress.

FEATURE

- A low coefficient of thermal expansion
- No twinning crystal and phase transitions

APPLICATION

- Substrate for high-temperature superconductor YBCO



PARAMETER

Physical Properties

| | |
|-------------------------------|---|
| Preparation methods | Czochralski method |
| Crystal structure | Tetragonal (a=3.756Å, c=12.636Å) |
| Melting point | 165°C |
| Density | 5.924g/cm ³ |
| Thermal conductivity | 8.82W/(m·K)@300K 7.50W/(m·K)@450K |
| Thermal expansion coefficient | Along a-axis:(7.55±0.02)×10 ⁻⁶ K ⁻¹ Along c-axis:(1.71±0.02)×10 ⁻⁵ K ⁻¹ |
| Hardness | at<001>:3512MPa at<100>:6349MPa |
| Color | Colorless-Yellow |
| purity | 0.9999 |
| Dielectric constant | 16.8 |

Main Specification

| | |
|-------------------|---|
| Orientation | <001>,<100> Tolerance:±0.5degrees, or special orientation |
| Size | 15×15×0.5mm,10×10×0.5mm,10×5×0.5mm, 5×5×0.5mm |
| Polished | One side or double side polished |
| Surface roughness | ≤5Å |
| Package | 100 clean bags, single or multi-chip wafer box |

