

## LaAlO<sub>3</sub> 铝酸镧 Lanthanum Aluminate

### 简介 Introduction:

LaAlO<sub>3</sub> 是一种高温超导单晶衬底材料。是高温超导薄膜和巨磁薄膜外延生长的良好衬底材料, 其优良的介电性能适用于低损耗微波放大器件和介电共振应用。

LaAlO<sub>3</sub> is a high temperature superconducting single crystal substrate. It is a good substrate material for epitaxial growth of high temperature superconducting thin films and giant magnetic thin films. Its dielectric properties are suitable for low loss microwave and dielectric resonance applications.



### 主要优点 Main Advantages:

介电常数小

介电损耗低

晶格匹配性好

热膨胀系数小

化学稳定性好

能隙宽

比表面积大

良好的热稳定性

Small dielectric constant

low dielectric loss

good lattice matching

small thermal expansion coefficient

good chemical stability; wide energy gap

large specific surface area

good thermal stability

**材料特性 Material Properties:**

分子式 Chemical Formula	LaAlO <sub>3</sub>
生长方法 Growth Method	Czochralski
晶体结构 Crystal System	Hexagonal (room temperature)
晶格常数 Lattice constant	Hexagonal a = 5.357Å c = 13.22 Å
硬度 Hardness	6.5 Mohs
密度 Density	6.52g/cm <sup>3</sup>
熔点 Melting point	2080°C
热膨胀系数 Thermal Expansion	10×10 <sup>-6</sup> /°C
正切损耗 Loss Tangent (10ghz)	~ 3×10 <sup>-4</sup> @300K, ~ 0.6×10 <sup>-4</sup> @77K

**科瑞思创提供 Crystro offers:**

尺寸 Dimensions	Maxφ76.2mm (3 inches)
厚度 Thickness	0.5mm/1mm
抛光 Polishing	单面抛或双面抛 Single or double
晶向 Orientation	<100> <110> <111>
表面粗糙度 Ra	Ra≤5Å (5μm×5μm)
重定向精度 Redirection Precision	±0.2°
重定向边缘 Redirection the Edge	2° (特殊要求可达到 1°以内/special in 1°)
结晶角 Angle of Crystalline	可根据要求定制 Special size and orientation are available upon request

备注：以上参数为参考数据，具体产品技术要求请联系销售人员确认。

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