

LaAlO₃ – Lanthanum Aluminate

MATERIAL PROPERTIES

Structure formula:	LaAlO ₃	
State:	monocrystalline	
Crystal structure:	rhombohedral	$a = 5.377 \text{ \AA}$
		$b = 60.13 \text{ \AA}$
	cubic	$a = 3.821 \text{ \AA}$
Phase transition:	> 500°C	
Density:	6.51 g/cm ³	
Melting point:	2180°C	
Coefficient of expansion:	10 * 10 ⁻⁶ /°C	
Dielectrical constant (ε):	20-25	

SUBSTRATE PROPERTIES

Production method:	sim. Verneuil grown (with minimum twins)
Orientation:	(100)
Orientation accuracy:	± 0.5°
Standard size:	10mm x 10mm x thickness 1mm or 0.5mm
Tolerance of length:	± 0.10mm (typical better ± 0.05mm)
Tolerance of thickness:	± 0.05mm
Parallelness:	± 0.02mm
Polishing:	standard: one side
Flatness:	±/2
Roughness of surface:	Rmax ± 15nm (average Ra = 3nm)
Scratches:	none
Surface quality:	with light microscope without defects

