

GaN Substrates: N-type

Kyma’s bulk GaN substrates improve device epitaxy by reducing dislocation density by 1000x and doubling thermal conductivity when compared to other non-native substrates. GaN substrates provide an alternative to multi-step nucleation processes, allowing customers to:

- Eliminate interlayers
- Eliminate processing steps
- Improve device yield and reliability



Orientation*: c-axis (00.1) $\pm 1^\circ$
 Conduction Type: N-type
 Resistivity: <5 Ohm-cm
 Front Surface Finish (Ga-face): Epi-ready, RMS <0.5 nm
 Back Surface Finish: Optical polish, RMS <1 μm
 Dislocation Density: <5 x 10⁶ cm⁻²
 Edge Exclusion Area: 1 mm
 TTV: <10 μm (10 mm²), <20 μm (18 mm²), <50 μm (rounds)
 Bow: <5 μm (10 mm²), <15 μm (18 mm²), <50 μm (rounds)

Available Sizes: 10mm², 18mm², 30mm & 2” round
 Available Grades: Prime, Production, Research, Rider
 Available Thickness*: 475 μm ($\pm 25 \mu\text{m}$)

*Varies for rider grade

Grade:	Prime	Production	Research	Rider
Macro Defect Density:	$\leq 3 \text{ cm}^{-2}$	$\leq 5 \text{ cm}^{-2}$	$\leq 10 \text{ cm}^{-2}$	>10 cm ⁻²

*Other polishing options available: N-face CMP, double-side CMP, double-side optical
 Other size, thickness and offcut options available*