GaN Substrates: Semi-Insulating

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) ± 1°
Conduction Type: Semi-insulating
Resistivity: > 10^6 Ohm-cm
Front Surface Finish (Ga-face): Epi-ready, RMS < 0.5 nm
Back Surface Finish: Optical polish
Dislocation Density: ≤ $5x10^6$ / cm^2
Edge Exclusion Area: 1mm
TTV: < 10 µm (10 mm^2), < 20 µm (18 mm^2), < 50 µm (rounds)
Bow: < 5 µm (10 mm^2), < 15 µm (18 mm^2), < 50 µm (rounds)

Available Sizes: 10mm x 10mm square, 18mm x 18mm square, 30mm round diameter
Available Grades: Prime, Production, Research, Rider
Available Thickness*: 475 µm (± 25 µm)
*Varies for rider grade

Grade:	Prime	Production	Research	Rider
Macro Defect Density:	≤ 3 cm^{-2}	≤ 5 cm^{-2}	≤ 10 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

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