

GaN templates

GaN epiwafers on sapphire substrates

GaN templates consist of Gallium Nitride grown on a sapphire wafer. The crystal quality is not as high as bulk GaN but is still excellent. GaN Templates represent a cost effective alternative to bulk GaN so are ideal for applications that are not as demanding as those requiring bulk GaN.

GaN templates are available in 2-inch diameter with different doping types, Non-Intentionally Doped (STNID), n-type Si doped (STN), and semi-insulating (STINS), that offer the best performance in a variety of applications. STN templates are also available in 100 mm diameter.

Saint-Gobain Lumilog combines decades of expertise in the field of crystal growth and finishing to design high quality GaN substrates for Opto- and Microelectronic applications.

TYPICAL PRODUCT CHARACTERISTICS

	STNID	STN	STINS
Geometry			
Thickness (µm)	3.5	3.5	3.5
Thickness Uniformity (%)	± 5	± 5	± 5
Crystalline quality			
Average TD (cm ⁻²)	5x10 ⁸	5x10 ⁸	8x10 ⁸
Doping level			
n Carrier Concentration (cm ⁻³)	≤3x10 ¹⁷	1-3x10 ¹⁸	-
Resistance (MΩ/square)	-	-	≥10
Carrier Concentration Uniformity (%)	-	± 10	-
Sapphire substrate			
Diameter (mm)	50.8	50.8 *	50.8
Thickness (µm)	330	330 *	330
(0001) Center Miscal	0.25° ±0.1	0.25° ±0.1	0.25° ±0.1

* STN templates are also available in 100 mm diameter, 650 µm thickness.

Typical Packaging

Single wafer shipping box (polypropylene) or 25 wafer box
Double-bagged, vacuum-sealed in class-1000 cleanroom environment
Ready to go directly in cleanroom



KEY FEATURES

GaN epiwafers on sapphire substrates

Available in 3 different types

- STNID Non-Intentionally Doped
- STN Si doped
- STINS Fe doped Semi-Insulating

Cost effective alternative to bulk GaN

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