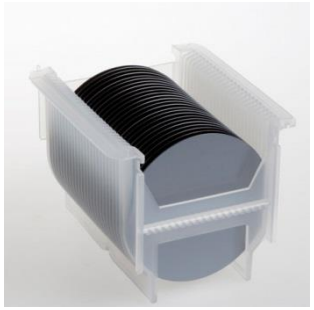
Note relaunched December 2015, replacing Silicon wafers for GaN thin film growth, November 2013

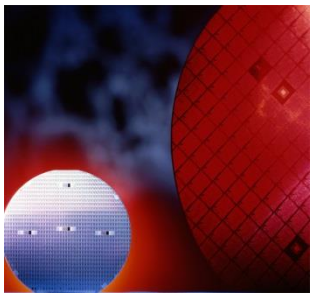
PRODUCT NOTE

SILICON WAFERS FOR GaN THIN FILM GROWTH

High performance silicon wafers for LED, RF communications and power electronics



Since its introduction in the 1990s, gallium nitride (GaN) technology devices have often been grown on silicon carbide and sapphire substrates. As the technology has gradually matured, the silicon industry has responded to a market demand of overcoming the challenge of developing silicon as a more cost effective and easily available alternative for commercial GaN applications. By now, silicon has found a ready GaN market, a market which is steadily evolving.



Topsil has a long tradition of engaging in customer partnerships from the first stages of the design process to identify and develop the optimum customer solution. Topsil offers silicon wafers for GaN thin film growth based on a proprietary technology platform and according to customer specifications. Topsil provides design of experiment packages during the R&D phase, and support volume production.

Topsil silicon wafers for GaN growth require no wafer conditioning prior to film growth. The wafers meet various parameters and are available as single sided polished wafers.

The wafers for GaN technology are characterised by:

- Crystal perfectness
- Accurate crystallographic orientation <111>
- Predictable bending behavior (BOW)
- High quality surface for EPI
- Perfect edge conditions
- Accurate chemical control

The silicon wafers for GaN growth are suitable for a wide variety of microelectronic devices, such as LED applications, RF communications and power electronics.

Topsil offers customised parameters, supported by the capabilities listed below:

CONTACT
For more information please contact:

Leif Jensen
+45 26 83 56 63

lej@topsil.com

Diameter (mm)	200*	150	100
Thickness (µm)	675-1200	625-1500	525-1500
RF wafer (Ωcm)	3,000-intrinsic	3,000-intrinsic	3,000-intrinsic
LED wafers (Ωcm)	0.001-0.1	0.001-0.1	0.001-0.1
Power wafers (Ωcm)	0.001-intrinsic	0.001- intrinsic	0.001-intrinsic
BOW (µm)	<60	<60	<60
Options	Option: Flats/notch, laser marking Other parameters SEMI standard		

*200 mm under development.

Topsil Semiconductor Materials A/S

Topsil is a world leading supplier of ultrapure silicon to the global semiconductor industry. Engaging in long term relations with customers, Topsil focuses on premium quality, an efficient production process and a safe delivery of products.

Silicon is used in electronic components to aid conversion and control of electrical power. Topsil provides ultrapure silicon mainly for the most demanding purposes, based on extensive knowledge and significant investments in new technology, facilities and equipment.

Headquartered in Copenhagen Cleantech Park, Topsil spans production sites in Denmark and Poland and sales locations in Europe, Asia and the US. Topsil is publicly listed at the Nasdaq OMX Copenhagen stock exchange and was founded in 1959.

Topsil Semiconductor Materials A/S
Siliciumvej 1
DK-3600 Frederikssund
Denmark
Tel.: +45 47 36 56 00
Fax: +45 47 36 56 01
E-mail: topsil@topsil.com

Internet: www.topsil.com
CVR no.: 24 93 28 18