



Norstel SiC Epitaxy

Norstel's expertise in SiC epitaxy builds on more than 15 years of experience. Since the very beginning we have developed pioneering concepts partnering with Linköping University and leading equipment manufacturers.

Today we operate modern equipment in a state-of-the-art facility dedicated to SiC. With a flexible and customer-oriented attitude we provide everything from regular volume deliveries for large industrial companies to single substrate structures for university labs. Satisfying challenging customer demands is our highest priority.

Norstel offers SiC epitaxy growth on customer supplied substrates. The grown layers can be fully characterized in-house. Flexible options are available for further processing of the epi substrates.

Industrial Grade Epitaxy

Equipment: Aixtron/Epigress VP-2400HW

- Hot-wall technique
- Radial flow type planetary reactor
- Mechanical drive plus gas foil rotation
- Capacity: Seven three inch or six 100 mm wafers per run
- Standard n-type doping and prepared for p-type

Typical process performance (5 – 20 μm epi)

- Within-wafer thickness uniformity (σ/mean): <3 %
- Within-wafer doping uniformity (σ/mean): <10 %
- Background doping: <1e15
- Downfall defects: < 5 per wafer
- No backside deposition





R&D Epitaxy

Equipment: Aixtron/Epigress VP-508

- Hot-wall technique
- Gas foil rotation
- Doping: n-type and p-type
- Capacity: 3x2", 1x3" or 1x4"

Typical process performance

- Thickness range: 0.1 – 100+ μm
- Thickness uniformity (σ/mean): <5 %
- Doping uniformity (σ/mean): <10 %

Characterization

Routine in-house techniques available include

- Epitaxial layer thickness by FTIR
- Epitaxial layer doping by mercury probe CV
- Wafer thickness and shape by non-contact mapping
- Surface roughness by AFM
- Nomarski microscopy
- Full-wafer inspection using KLA-Tencor Candela CS10

Related services

The substrates can be processed before or after epi in order to achieve the desired surface conditions. Backside thinning allows for customized solutions.

For more information please contact Norstel sales!

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