

NORSTEL[★]

Norstel's expertise in Silicon Carbide (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 industrial companies to single substrate structures for university and R&D labs.

Norstel offers SiC epitaxy growth on Norstel or on customer supplied substrates. The grown layers can be fully characterized in-house.

SIC INDUSTRIAL GRADE EPITAXY

Equipment: Aixtron/Epigress VP-2400HW

Hot-wall technique
Radial flow type planetary reactor
Mechanical drive plus gas foil rotation
Capacity: Six wafers (3" / 100mm) per run
Doping: n-type and p-type

Typical process performance

Thickness range: 5-30 μm
Thickness uniformity (σ/mean): < 5%
n-type doping uniformity (σ/mean): < 10%
p-type doping uniformity (σ/mean): < 20%
Epitaxial defects: < 2 per cm^2

SIC R&D EPITAXY

Equipment: Aixtron/Epigress VP-508

Hot-wall technique
Single wafer chamber
Gas foil rotation
Capacity: 1x3" or 1x100mm
Doping: n-type and p-type

Typical process performance

Thickness range: 0.1-100+ μm
Thickness uniformity (σ/mean): < 5%
Doping uniformity (σ/mean): < 15%

CHARACTERIZATION

Routine in-house techniques available includes

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

RELATED SERVICES

CMP Polishing

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

*Ref: 255-B-Q SiC Industrial grade Epitaxy, April 2014
256-B-Q SiC R&D Epitaxy, April 2014
257-B-Q Characterization, April 2014*

For more information please contact
Norstel sales! email: sales@norstel.com