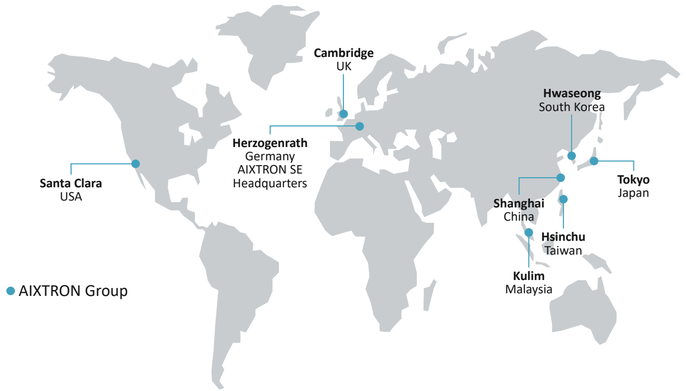
AIXTRON SiC application lab services

- Operation of 4 systems for 150/200 mm SiC process development
- Full material characterization capabilities supported by Fraunhofer Institute, Germany
- Customer support through SiC process demonstration/developments and training

Global presence



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Deposition Systems for Compound Semiconductors

G10-SiC

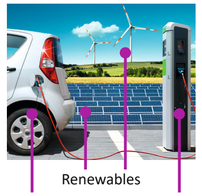
150/200 mm high throughput epitaxy for SiC power electronics

Dual wafer size batch reactor

G10-SiC power epi production platform with 150/200 mm wafer size flexibility

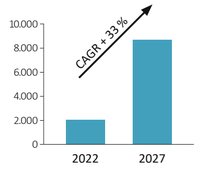
SiC market opportunity

SiC mega trends



- Power inverter
- On board charger
- Charge 100 km in 5 min
- Needs 100...400 kW

SiC power device market ($M)

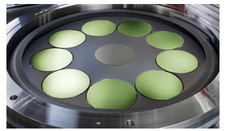


Source: Yole Power SiC 2022

AIXTRON G10-SiC production platform

G10-SiC

- 150 mm and 200 mm – dual wafer size capable – safeguard your investment into the future
- Highest wafer output / m^2 in the market
- Lowest cost / wafer in the market
- Excellent run-to-run process performance
- Highly uniform, low defect SiC epitaxy processes for maximum chip yield

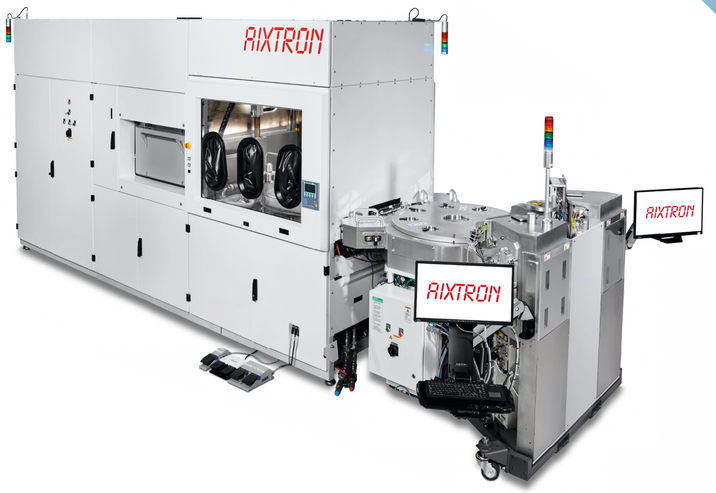


9 x 150 mm

6 x 200 mm

G10-SiC

Planetary Reactor®
for 9 x 150 mm & 6 x 200 mm



Your benefits

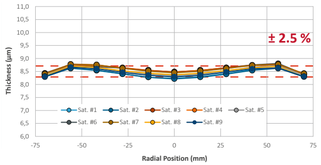
- Single wafer performance in batch configuration
- Best in class productivity
- Best in class epi cost

Our solutions

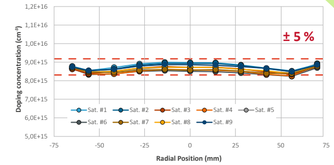
- Fully automated wafer loading (C2C)
- Individual wafer Gas Foil Rotation (GFR)
- Automated Top side wafer Temperature Control (TTC) for optimized batch processing
- Largest reactor capacity (9x150 mm & 6x200 mm)
- High growth rate SiC processes
- Hot wafer transfer and fast thermal reactor cycling
- Best in class wafer throughput per m^2 fab space efficacy
- Low consumable cost per wafer
- Highest efficiency in gas & power consumption per wafer

150 mm thickness and doping uniformity

9 x 150 mm



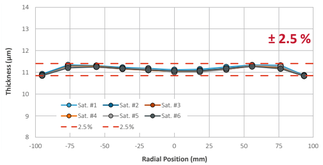
On-wafer uniformity in σ/mean ≤ 2 %



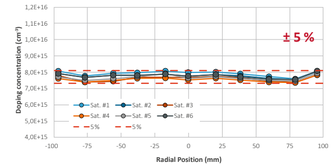
On-wafer uniformity in σ/mean ≤ 2 %

200 mm thickness and doping uniformity

6 x 200 mm



On-wafer thickness σ/mean ≤ 1.5 %

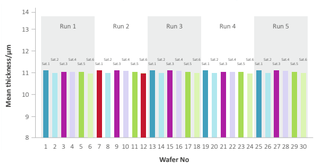


On-wafer doping uniformity σ/mean ≤ 1.75 %

G10-SiC 200 mm process stability

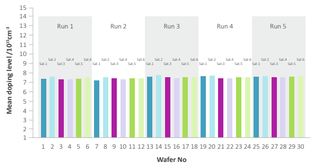
5 Runs, 6 x 200 mm

Mean epi thickness stability



Mean thickness uniformity (30 wafer, 5 runs)	sigma[mean1-30]/mean	≤ 1 %

Mean epi doping stability



Mean doping uniformity (30 wafer, 5 runs)	sigma[mean1-30]/mean	≤2.5%

No epi recipe parameter change over 5 runs