P-300F

The PICOSUN™ P-300F ALD system is specially designed for production of IC components such as microprocessors, memories, and hard drives, and manufacturing of power electronics, mixed signal, and MEMS devices such as print heads, sensors, and microphones.



The PICOSUN™ P-300 ALD systems have become the new standard in high volume ALD manufacturing. By integrating our patented hotwall design with fully separated inlets, we can create the highest quality ALD films with excellent yield, low particle levels, and superior electrical and optical performance. The agile design with easy and fast maintenance ensures minimum system downtime and lowest cost-of-ownership in the market. Our proprietary Picoflow™ diffusion enhancer technology enables highly conformal coatings on ultra-high aspect ratio substrates with production-proven processes.

The PICOSUN™ P-300F ALD system represents the cutting-edge of industrial ALD. The system is designed for fully automated handling of wafer batches in combination with industry standard single wafer vacuum cluster platforms. The SEMI S2/S8 certified P-300F ALD systems can be integrated to factory automation via SECS/GEM option.

The PICOSUN™ P-300F is the ALD system of choice for innovation driven industries in IC!

Typical substrate size and type

- · 200 mm wafers in batches up to 50 pcs
- 150 mm wafers in batches up to 50 pcs
- · 100 mm wafers in batches up to 50 pcs
- High aspect ratio samples (up to 1:2500)
- Substrate materials: Si, glass, quartz, SiC, GaN, GaAs, LiNbO₃, LiTaO₃, InP

Processing temperature and capacity

- 50 300°C
- Up to 1000 wafers / 24 hours @ 15 nm Al₂O₃ thickness

Typical processes

- Batch processes available with cycle times down to single digit seconds*
- Al₂O₃, SiO₂, Ta₂O₅, HfO₂, ZnO, TiO₂, ZrO₂, and metals
- Down to <1% 1σ non-uniformity in a batch (Al₂O₃, WIW, WTW, B2B, 49 pts, 5mm EE)**

Substrate loading

- Fully automatic loading with vacuum cluster tool combined with vertical flip function
- Cassette to cassette batch loading through Picoplatform™ 200 vacuum cluster system
- Optional SMIF station

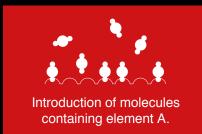
Precursors

- · Liquid, solid, gas, ozone
- · Level sensors, cleaning and refill service
- Up to 12 sources with 6 separate inlets



Please feel free to contact us for more information or a quotation!

THE PRINCIPLE OF ALD





Adsorption of the molecules on the surface.



Introduction of molecules containing element B and reaction with element A on the surface.



Completion of one monolayer of compound AB.

Repeat cycle till desired film thickness is reached.



Picosun HQ

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