

PICOSUN™ P-300S

The PICOSUN™ P-300S ALD system is specially designed for production of IC components such as microprocessors, memories, and hard drives, and it is also suitable for MEMS devices such as print heads, sensors, and microphones.



Technical Features

The PICOSUN™ P-300 ALD systems have become the new standard in high volume ALD manufacturing. By integrating our patented hot-wall 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-300S ALD system represents the cutting-edge of industrial ALD. The system is designed for fully automated handling of single wafers in combination with industry standard vacuum cluster platforms. The SEMI S2/S8 certified P-300S ALD systems can be integrated to factory automation via SECS/GEM option and they fulfill the most stringent cleanliness requirements of the semiconductor industry.

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

Typical substrate size and type

- Max. 300 mm single wafers
- High aspect ratio samples (up to 1:2500)

Processing temperature

- 50 – 500°C

Typical processes

- Single wafer processes available with cycle times down to single digit seconds*
- Al_2O_3 , SiO_2 , Ta_2O_5 , HfO_2 , ZnO , TiO_2 , ZrO_2 , AlN , TiN , and metals
- Down to <1% 1σ non-uniformity (Al_2O_3 , WIW, WTW, B2B, 49 pts, 5mm EE)**

Substrate loading

- Load lock with magnetic manipulator arm
- Automatic loading available through Picoplatform™ 200 or Picoplatform™ 300 vacuum cluster system
- Cassette-to-cassette and FOUP loading available with cluster systems
- N_2 cabinet loading

Precursors

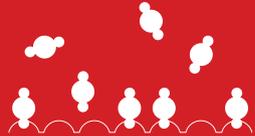
- Liquid, solid, gas, ozone, plasma
- Level sensors, cleaning and refill service
- Up to 12 sources with 6 separate inlets

* < 10s cycle
time

** < 1% non-
uniformity

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

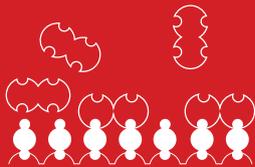
THE PRINCIPLE OF ALD



Introduction of molecules
containing element A.



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
AGILE ALD

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