# 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.



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-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<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, Ta<sub>2</sub>O<sub>5</sub>, HfO<sub>2</sub>, ZnO, TiO<sub>2</sub>, ZrO<sub>2</sub>, AlN, TiN, and metals
- Down to <1% 1σ non-uniformity (Al<sub>2</sub>O<sub>3</sub>, WIW, WTW, B2B, 49 pts, 5mm EE)\*\*

#### Substrate loading

- · Load lock with magnetic manipulator arm
- Automatic loading available through Picoplatform<sup>™</sup> 200 or Picoplatform<sup>™</sup> 300 vacuum cluster system
- Cassette-to-cassette and FOUP loading available with cluster systems
- N<sub>2</sub> cabinet loading

#### Precursors

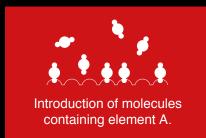
- · Liquid, solid, gas, ozone, plasma
- Level sensors, cleaning and refill service
- Up to 12 sources with 6 separate inlets

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



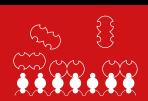
pic sun AGILE ALD

## 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

#### **Picosun Oy**

Tietotie 3 FI-02150 Espoo, Finland Tel. +358 50 321 1955 info@picosun.com

#### **Picosun Oy**

Masalantie 365 FI-02430 Masala, Finland Tel. +358 50 321 1955 info@picosun.com

#### **Picosun Branch Offices**

#### **Picosun Europe GmbH**

Tel. +49 1522 449 49 11 sales@picosun.com

#### Picosun USA, LLC

Tel. +1 214 790 0844 Mobile +1 214 490 3951 sales@picosun.com

### Picosun Asia Pte. Ltd., Singapore

Tel. +65 9756 3265 sales@picosun.com

#### Picosun Taiwan Co. Ltd.

Tel. +886 90 515 2985 sales@picosun.com

#### Picosun China Co. Ltd.

Tel. +358 40 480 3449 sales@picosun.com

#### Picosun Japan Co. Ltd.

Tel. +81 3 6431 9500 Mobile +81 90 5198 8131 sales@picosun.com