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Plasma-Therm Acquires Innovative Plasma Processing Technology from Nanoplas France

ST. PETERSBURG, FLORIDA (October 29, 2015) — Plasma-Therm today announced that it has acquired an innovative High Density Radical Flux plasma technology, which enables low-temperature Bosch polymer removal.

High Density Radical Flux — HDRF® — was developed by Nanoplas France as a superior plasma process for low-temperature removal of photoresists and organic polymer residues. These capabilities are especially important for device fabrication steps in the MEMS, LED, and advanced packaging markets.

Plasma-Therm is integrating HDRF® technology into its existing suite of plasma etching, deposition, and wafer-dicing products. The Nanoplas-developed HDRF® low-temperature photoresist stripping capability is also applicable to Bosch polymer removal after DRIE processing.

“We are eager to make the HDRF® technology available to our existing customers and potential customers,” said Ed Ostan, vice president of marketing for Plasma-Therm. “HDRF fits very well into our etch and deposition product line, because this will allow Plasma-Therm to provide multi-step solutions to specialized device manufacturers for both R&D and production use.”

Plasma-Therm will also offer ongoing support to Nanoplas customers. The Nanoplas installed base is primarily made up of DSB 6000 and DSB 9000 HDRF® systems.

HDRF® enables removal of photoresist, as well as organic polymers left on trench sidewalls following DRIE processes. These applications are sought for advanced packaging, MEMS, and power devices.

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HDRF® systems incorporate a multi-zone, remote, inductively coupled plasma (ICP) source, which produces up to 1,000 times greater chemical concentration than a conventional ICP source.

HDRF® provides better performance than wet processing and regular plasma processing in terms of selectivity, low damage, flexibility, and high-aspect-ratio efficiency. HDRF provides superior polymer removal efficiency for high-aspect-ratio (greater than 50:1) structures.

With operating temperatures lower than 80° C., and with high selectivity to TiN, Al, Au, SiO₂, and Si₃N₄, HDRF® provides damage-free residue removal for ultra-sensitive devices.

Nanoplas introduced the semi-automatic DSB 6000 system in 2008. It was followed in 2011 by the fully automatic 200mm DSB 9000 system, which accommodates one or two process modules. Both systems are capable of chemical downstream etching, stripping and cleaning applications. The company also designed the HDRF300 system for advanced cleans for 3D-IC fabrication.

Nanoplas customers include global companies utilizing the systems in volume production, and also R&D and pilot line facilities, company officials said.

About Plasma-Therm

Plasma-Therm is a private, U.S.-based manufacturer of advanced plasma processing equipment. The company produces etch, deposition, and die-singulation systems for specialty semiconductor markets, including solid-state lighting, power, data storage, renewable energy, MEMS, photonics, wireless, photomask, and advanced packaging. Its product lines include VERSALINE®, Mask Etcher®, LAPECVD™, and Singulator™ systems, and Apex SLR™ and Vision™ systems by Advanced Vacuum. Plasma-Therm’s outstanding products and customer service have been recognized with 17 years of awards from the VLSIresearch Customer Satisfaction Survey. Sales and service locations throughout North America, Europe, and Asia Pacific meet the diverse needs of Plasma-Therm’s global customer base. More information is available at www.plasmatherm.com.

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