

ACM Research Enters 3D TSV Copper Plating Market with Ultra ECP 3d Platform

Novel Pre-Wet Process and Pulse Partial Plating Achieve Conformally Filled, Void-Free, High Aspect Ratio Through-Silicon Vias

Fremont, Calif. – Nov. 19, 2020 – [ACM Research, Inc.](#) (ACM) (NASDAQ: ACMR), a leading supplier of wafer processing solutions for semiconductor and advanced wafer-level packaging (WLP) applications, today introduced its Ultra ECP 3d platform for conformally filled 3D through-silicon via (TSV) applications. Leveraging ACM’s Ultra ECP ap and map platforms, the Ultra ECP 3d platform delivers high-performance copper (Cu) electroplating for high aspect ratio (HAR) Cu applications, with no voids or seams. Key markets for devices using TSVs include imaging, memory, MEMS and optoelectronics, among others.

According to industry research firm Mordor Intelligence, “The 3D TSV Devices Market was valued at USD \$2.8 billion in 2019 and is expected to reach USD \$4.0 billion by 2025, at a CAGR of 6.2% over the forecast period of 2020 - 2025.”

“Many factors are driving the growth of the 3D TSV market, from device miniaturization to AI and edge computing,” said David Wang, CEO of ACM. “These applications demand more processing power in ever higher density packages and are leading to rapid industry adoption of TSV technologies.”

“In working with customers, we’ve successfully demonstrated our ability to fill HAR vias using the Ultra ECP 3d platform. In addition to delivering higher throughput with a stacked chamber design, the platform is designed to use fewer consumables, have a lower total cost of ownership, and save valuable fab floor space,” Wang added.

During bottom-up filling for HAR TSVs, the Cu electrolyte must be able to completely fill the vias without any trapped air bubbles when immersed in the plating solution. To accelerate this process, an integrated pre-wet step is used.

This advanced technology solution can deliver better yields, greater plating efficiency and higher throughput during the fabrication process. The Ultra ECP 3d platform for 3D TSV is a 10-chamber, 300mm tool with integrated pre-wet, Cu plating and post-clean modules in a footprint of only 2.20m x 3.60m x 2.90m (W/L/H).

ACM recently delivered its first Ultra ECP 3d tool to a key customer in China, to begin formal qualification for its 3D TSV and 2.5D interposer Cu plating applications. For more information, please call the ACM regional company contact listed below.

About ACM Research, Inc.

ACM develops, manufactures and sells semiconductor process equipment for single-wafer or batch wet cleaning, electroplating, stress-free polishing and thermal processes that are critical to advanced semiconductor device manufacturing as well as wafer-level packaging. The company is committed to



delivering customized, high-performance, cost-effective process solutions that semiconductor manufacturers can use in numerous manufacturing steps to improve productivity and product yield.

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