Press Release

Heraeus Electronics to Introduce Breakthrough Vertical Wire Bonding Innovation at SEMICON West 2025

Hanau, September 2025 – Heraeus Electronics will showcase its latest innovation in Booth 353 at SEMICON West 2025, taking place October 7–9 at the Phoenix Convention Center in Arizona.

At the event, Heraeus Electronics will introduce a new vertical wire bonding technology for fine-pitch applications, designed to address the growing challenges in memory packaging and stacked device architectures. Leveraging a half-cut capillary and 18µm bonding wire, the solution achieves a stable bonding process with unprecedented precision and consistency.

Extensive evaluation demonstrated that the process consistently maintains post height variation (ΔH) within 10µm across a 150–350µm range, delivering highly reliable connections essential for next-generation devices. Wires with moderate ductility—such as 4N and 2N gold (Au) and coated silver (Ag)—exhibited excellent performance with minimal variation in X-shift, Y-shift, and vertical post height. Other tested wire types, including alloyed silver, copper (Cu), and AFPC (gold flash palladium-coated copper), also met the demanding requirements when optimized for wire diameter, elongation, and capillary design.

“Vertical wire bonding is an increasingly critical technology for fine-pitch applications in the memory sector, where stacked device architectures demand both precision and reliability,” said Cathy Chen, Product Manager at Heraeus Electronics. “Our latest development provides a proven, stable process window with the flexibility to support a wide range of bonding wire types—paving the way for more reliable and scalable manufacturing.”

Additionally, at the event, Heraeus Electronics will present “Low-Temperature SnBiAg Solder Solution for Flexible Substrate” on Tuesday, October 7th.

Visitors to Booth 353 at SEMICON West can learn more about this breakthrough technology and explore how Heraeus Electronics is helping shape the future of fine-pitch vertical wire bonding.

For more information about Heraeus Electronics, visit www.heraeus-electronics.com.

About Heraeus
The Heraeus Group is a broadly diversified and globally leading family-owned technology company, headquartered in Hanau, Germany. The company’s roots go back to a family pharmacy started in 1660. Today, Heraeus bundles diverse activities in the Business Platforms Metals and Recycling, Healthcare, Semiconductor and Electronics as well as Industrials. Customers benefit from innovative technologies and solutions based on broad materials expertise and technological leadership. In the 2022 financial year, the group generated revenues of €29.1 billion (US$30.6 billion*) with approximately 17,200 employees in 40 countries. Heraeus is one of the top 10 family-owned companies in Germany and holds a leading position in its global markets. (* calculated with 2022 average exchange rate, 1€ = 1.0530 US$)

About Heraeus Electronics
Heraeus Electronics is a leading manufacturer of materials for the assembly and packaging of devices in the electronics industry. The company develops material solutions for the automotive, power electronics and advanced semiconductor packaging market and offers its customers a broad product portfolio - from materials and material systems to services.

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