

Press Release**Heraeus Electronics provides latest materials portfolio for next-generation power electronics and semiconductor advanced packaging at NEPCON Japan 2023**

Tokyo, Japan – 23 January 2023.

Heraeus Electronics returns to NEPCON Japan after two years of the pandemic. At the exhibition, which is scheduled to take place January 25-27, 2023, at The Tokyo Big Sight, Heraeus Electronics will bring a wide range of innovative materials to enhance power module and semiconductor device performance.

Automotive powertrain and electric drive systems play critical roles in tackling our world's energy and climate change challenges. The demand for higher efficiency of electrical drives in e-mobility to generate more travel distance or higher speed per battery loading requires perfectly matched materials providing high-temperature stability and maximum reliability. Heraeus offers innovative materials such as the Die Top System (DTS®), PowerCu Soft copper bonding wires and ribbons, mAgic® sinter pastes, lead-free solder pastes and metal ceramic substrates. These materials are perfectly matched to provide high temperature stability to exceed device reliability demands.

Mega trends such as 5G, artificial intelligence and high-performance computing continue to play a part in revolutionizing the semiconductor market. New material solutions are needed to meet the increasing demands and challenges of semiconductor advanced packaging. Specifically, three new products will be introduced from Heraeus Electronics – offering solutions to meet thermal dissipation, miniaturization and defect challenges.

mAgic® DA320 is a high shear strength, non-pressure dispensing sinter paste for die attach of power applications. The new sinter paste, featuring fast sintering, high shear strength and high thermal conductivity, is ideal for Silicon Carbide (SiC), Gallium Nitride (GaN) and other top-of-the-line power devices.

Welco AP520 is a state-of-the-art water-soluble type 7 printing paste designed to solve the challenges of miniaturization, as it can create tiny and reliable joints with close to zero defects. With excellent paste release down to 90 µm pitch (55 µm stencil opening and 35 µm line spacing), no splashing and best-in-class low void performance, AP520 makes an excellent choice for fine-pitch components and flip chip attach for next-generation System-in-Package applications used in 5G communications, smart-wearables and electric vehicles.

AP500X is a water-soluble, halogen-zero tacky flux specifically engineered for ultra-fine bump-pitch flip chip attach and BGA attach applications. This new carefully designed flux plays an important part in eliminating defects such as cold joints, solder creeping, die shifting, voiding, underfill delamination, etc. in advanced semiconductor packages for high performance computing, memory, mobile and more.

As part of its drive to achieve greater sustainability, Heraeus Electronics offers an extended product portfolio with gold bonding wire made with 100 percent recycled gold and Welco solder paste series made with 100 percent recycled tin. Both gold and tin suppliers comply with Responsible Materials Initiatives (RMI) and ISO14021:2016. Heraeus Materials Singapore also is certified with UL2809 in accordance with ISO14021:2016.

With the latest materials portfolio and technical know-how, Heraeus Electronics is prepared to support customers in response to trends and challenges for EV (Electric Vehicles), 5G communications, IoT (Internet of things), AI (Artificial Intelligence), HPC (High Performance Computing) and environmental sustainability.

Visit Heraeus Electronics at booth #25-36 at 24th IC & Sensor Packaging Technology Expo at NEPCON Japan to explore more.

To learn more 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, the Heraeus group includes businesses in the environmental, electronics,

health and industrial applications sectors. Customers benefit from innovative technologies and solutions based on broad materials expertise and technological leadership.

In the 2021 financial year, the FORTUNE Global 500 listed group generated revenues of €29.5 billion (US\$34.9 billion*) with approximately 16,200 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.

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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