

Silicon Carbide cooperation between SEMIKRON and ROHM Semiconductor: ROHM's SiC technology empowers SEMIKRON's eMPack® for the next generation of electric vehicles

Nuremberg/Willich – July 14th, 2022: SEMIKRON, headquartered in Nuremberg, and the Kyoto-based company ROHM Semiconductor have been collaborating for more than ten years with regards to the implementation of silicon carbide (SiC) inside power modules. Recently, ROHM's latest 4th generation of SiC MOSFETs has been fully qualified in SEMIKRON's eMPack® modules for automotive use. Hence, both companies serve worldwide customers' needs.



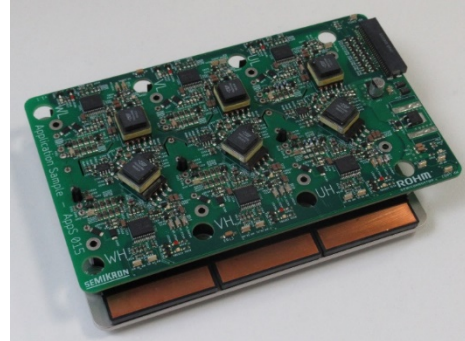
Picture at partnership ceremony

Karl-Heinz Gaubatz, CEO and CTO at SEMIKRON (left), Peter Sontheimer, CSO at SEMIKRON (right)
Wolfram Harnack, President at ROHM Semiconductor GmbH (center)

SEMIKRON announced it had secured a billion-Euro contract to supply their innovative eMPack® power modules to a major German car maker, beginning in 2025. The company developed a fully sintered assembly and connection technology 'Direct Pressed Die' (DPD). This enables extremely compact, scalable and reliable traction inverters. The eMPack® module technology has been specially designed for SiC-based converters of medium and high power in order to fully exploit the properties of the new semiconductor material. In addition, SEMIKRON provides evaluation boards for eMPack® that incorporate ROHM's gate driver ICs, helping customers shorten the time required for evaluation and adoption. In the future, SEMIKRON also plans to use ROHM's IGBTs in modules for industrial applications.



SEMİKRON's eMPack® Power Module



Evaluation board for eMPack® equipped with ROHM's gate driver IC

"Thanks to ROHM's SiC technology, SEMİKRON's innovative eMPack®- family of power modules is ready to make a significant contribution to reducing emissions through e-mobility," says Karl-Heinz Gaubatz, CEO and CTO at SEMİKRON. "ROHM's SiC technology provides more efficiency, performance and reliability in automotive and also industrial applications."

ROHM produces SiC components in-house in a vertically integrated manufacturing system and thus delivers high quality, energy-saving products while achieving a constant market supply. ROHM's production subsidiary SiCrystal, located in Nuremberg, Germany, plans to strongly grow its silicon carbide wafer capacities and human resources – to produce several 100,000 substrates a year.

"We are glad that SEMİKRON has selected ROHM as SiC supplier for the automotive qualified eMPack®. This partnership leads to a competitive solution for inverter application use inside electrical vehicles," states Isao Matsumoto, President and CEO of ROHM Co., Ltd.. "ROHM offers a broad portfolio of SiC devices – from chips to packages. As the demand for SiC will continue to grow, ROHM will accelerate further investment and product development based on the technology we have cultivated as a leading SiC manufacturer. In addition, our company will continue to propose solutions and deliver customer support," Isao Matsumoto continues.

ROHM has been a leader in SiC device technology and products since it began the world's first mass production of SiC MOSFETs. ROHM's latest 4th generation of SiC MOSFETs, which has been adopted by SEMİKRON, provides industry-leading low ON resistance with improved short-circuit withstand time. These characteristics contribute significantly to extend the driving length and miniaturize the batteries of EVs when they are used in traction inverters. Thus, the company develops advanced, energy-saving SiC devices that reduce environmental impact.

Both companies will continue to contribute to automotive technology innovations by providing optimal power solutions that meet market needs through the fusion of ROHM's device/control technologies and SEMİKRON's module technologies that can optimally combine them.

About SEMIKRON

SEMIKRON is one of the world's leading manufacturers of power modules and systems primarily in the medium output range (approx. 2 kW up to 10 MW). Our products are at the heart of modern energy efficient motor drives and industrial automation systems. Further application areas include power supplies, renewable energies (wind and solar power) and electric vehicles (private cars, vans, buses, lorries, forklift trucks, and more). SEMIKRON's innovative power electronic products enable our customers to develop smaller, more energy efficient power electronic systems. These systems in turn reduce the global energy demand. Further information can be found at www.semikron.com

SEMIKRON is a family owned business founded in 1951, headquartered in Nuremberg, Germany. Today the company has a staff of more than 3,000 people in 24 subsidiaries worldwide. This international network with production sites in Germany, Brazil, China, France, India, Italy, Slovakia and the US ensures fast and comprehensive service for customers. By establishing the ONLINE SHOP, SEMIKRON increased its presence for customers.

About ROHM Semiconductor

ROHM Semiconductor is a global company of 452.1 billion Yen (3.3 billion Euros) per March 31st, 2022 with over 23,000 employees. The company develops and manufactures a very large product range from SiC Diodes and MOSFETs, Analog ICs such as Gate Drivers and Power Management ICs to Power Transistors and Diodes to Passive Components. The production of our high performing products is taking place in state-of-the-art manufacturing plants in Japan, Germany, Korea, Malaysia, Thailand, the Philippines, and China. ROHM Semiconductor Europe has its Head Office near Dusseldorf serving the EMEA region (Europe, Middle East and Africa). For further information, please contact www.rohm.com

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