

Partnership for True Multiple Sourcing: Semikron Danfoss Power Modules with ROHM IGBTs

Nuremberg/Willich – April 25th, 2023: Semikron Danfoss 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, Semikron Danfoss added ROHM's new 1200V RGA IGBT to its low power module offering. In doing so, both companies show that they remain committed to serving worldwide motor drive customers' needs.

The worldwide growth in electrification technologies has created unprecedented demand for power modules. Often, it is the chip supply that limits power module availability. Despite ongoing investments in production capacity by the chip manufacturers, the supply situation remains tight. It is against this backdrop that ROHM has introduced the new 1200V RGA IGBT, targeted as an alternative to the latest Generation 7 IGBT devices in industrial applications. ROHM is now expanding their bare die offering to Semikron Danfoss, positioning themselves as an advanced alternative to traditional chip suppliers.

"The RGA is a newly designed, light punch through, trench gate IGBT with $T_{j,max} = 175^{\circ}C$. The conduction, switching, and thermal characteristics are optimized for new industrial drive applications in the low to medium power range. At the same time, the RGA is intended to remain compatible with existing IGBT solutions, enabling a multiple source approach. In addition, the RGA can also be used to improve transient overcurrent handling during overload conditions in motor drive applications," says Kazuhide Ino, Member of the Board, Managing Executive Officer, CFO at ROHM.

Semikron Danfoss can offer the 1200V RGA IGBT in a full range of nominal current classes from 10A to 150A. This range, combined with the suitability of the RGA chip in motor drive applications, means that the MiniSKiiP family is the ideal choice for module implementation. The baseplate-less, spring-contact MiniSKiiP is already deeply embedded in the worldwide motor drive market and always equipped with the latest generation IGBTs. Therefore, it is important for this product to have an alternative IGBT source to diversify the supply chain. The uniform-height MiniSKiiP housing family is also offered on the market as a multiple source package, making an alternative IGBT a valuable option for manufacturers.

For press-fit/solder applications, the industry-standard SEMITOP E package will also be available in pin-compatible configurations to existing Generation 7 IGBT module offerings. This housing family will also offer sixpack ("GD") and converter-inverter-brake ("DGDL") circuit configurations.

"The power electronics industry continues to recover and learn lessons from the supply issues in recent years. It's clear that diversification in semiconductor chip and module manufacturing is required to generate true 'multiple source' power modules", says Claus A. Petersen, President, Semikron Danfoss. "In the case of 1200V Generation 7 IGBTs, a reliable equivalent from a reputable manufacturer is now available to address this issue also in the low power range. The 1200V RGA IGBT from ROHM is a perfect alternative to the Generation 7 IGBT and can be made to behave in a remarkably similar manner with small gate resistor adjustment," continues Peter Sontheimer, Senior Vice President Industry Division & Managing Director at Semikron Danfoss.



Kazuhide Ino, Member of the Board, Managing Executive Officer, CFO, ROHM (left)
Claus A. Petersen, President, Semikron Danfoss (right)

About Semikron Danfoss

Semikron Danfoss is a global technology leader in power electronics. Our product offerings include semiconductor devices, power modules, stacks and systems.

In a world that is going electric, Semikron Danfoss technologies are more relevant than ever. With our innovative solutions for automotive, industrial and renewable applications we help the world utilize energy more efficiently and sustainably and thus to significantly reduce overall CO2 emissions – facing one of the biggest challenges today. We take care of our employees and create value for our customers by investing significantly in innovation, technology, capacity and service to deliver best-in-industry performance and for a sustainable future.

Semikron Danfoss is a family-owned business, merged by SEMIKRON and Danfoss Silicon Power in 2022. We employ more than 3,500 people in 28 locations across the world. Our global footprint with production sites in Germany, Brazil, China, France, India, Italy, Slovakia and the United States ensures an unmatched service for our customers and partners. We offer more than 90 years of combined expertise in power module packaging, innovation and customer applications – making us the ultimate partner in power electronics.

For more information, please visit www.semikron-danfoss.com

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 visit www.rohm.com.

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