FOR IMMEDIATE RELEASE

Ascatron introduces its first Silicon Carbide power device products

Stockholm, Sweden
17 September 2017

Ascatron provides next generation Silicon Carbide (SiC) power semiconductors using its proprietary 3DSiC® technology with a quality and performance unattainable through current methods. SiC radically reduce losses in electrical power converters and lowers system costs, making it key for electric vehicles and renewable energy. The global impact will thus be large.

Ascatron, with background in producing advanced SiC epi material for global customers, has recently transformed from a service provider to a device product company. The first products available for customer testing are diodes rated to 1200V, 1700V and 10kV. MOSFET switches are under development and will be introduced 2018.

“We have developed a unique material technology that makes it possible to fully use the potential of SiC to handle very high power with minimal losses, while maintaining the reliability of silicon”, says Adolf Schöner, CTO of Ascatron. “We call it 3DSiC® and is based on our expertise in producing advanced SiC epitaxy material. The technology has the potential to lower the losses up to 30% compared to conventional solutions”.

The 3DSiC® technology enables a modular design of Ascatron product line. Each device is divided in a high voltage module related to the desired voltage class, and a low voltage part for each type of component. Combination of different modules gives a wide range of products.

“Our business target is to be highly trusted and innovative supplier of SiC semiconductors for power electronics in industry, automotive and energy”, says Christian Vieider, CEO of Ascatron. “We foresee a period of technology change when shifting from silicon to SiC and target to take part in such industry consolidation”.

Ascatron will continue to support customers with small scale manufacturing of advanced SiC epi material.

About Ascatron
Ascatron vision is to provide the full power of SiC for maximum performance and sustainable use of electricity. The mission is to develop medium and high voltage power semiconductor products with minimal losses and reliable operation based on advanced SiC material technology. The business model is semi-fabless where Ascatron design the power device and keep in-house production of the key epitaxy material, while chip fabrication and packaging are outsourced. To address the Chinese market a company has been setup in Shenzhen with a local partner. Ascatron development and material production is located in Stockholm, Sweden. Key employees include 7 PhD with expertise in SiC. Ascatron was founded in 2011 as spin-out from the research center Acreo after 20 years of R&D in SiC. www.ascatron.com

For more information, contact:
Christian Vieider, CEO, Ascatron AB, tel +46 70 2171 654, christian.vieider@ascatron.com

---

FACTS FOR THE EDITOR

- There is a very clear trend in power electronics to replace the conventional silicon technology with “wide-bandgap” materials which permit devices to operate at much higher voltages, frequencies and temperatures. Such materials as Silicon Carbide (SiC) for higher voltages and

Gallium Nitride (GaN) for lower voltages, are allowing for electrical power converters to be built which are smaller, cheaper and more energy efficient.

- Power electronics is a key technology for advanced use of electricity. Today already 40% of the world used energy is provided by electric power. It is expected that this share is going to rise to about 60% until 2040 (source: ECPE). Total sales of power semiconductors is around 10 Billion Euro and growing 10% per year. This is driven by need for efficient use of electricity, increasing use of renewable energy and change to electric vehicles.
- The SiC power semiconductor market is now growing rapidly 30-40% per year with main applications in electrical vehicles, charge stations, solar power, power supplies, motor drives and traction. All leading producers of power converters develop products based on SiC. The tipping point for SiC is expected in 2019 (source: Yole Développement and IHS Technology).
- Major players in the global power electronics market are e.g. Infineon (Germany), Cree (U.S), Rohm (Japan), Mitsubishi (Japan), ST Microelectronics (Italy/France) and ABB (Sweden/Switzerland).