

Nexperia uses AIXTRON equipment as it enters the SiC market

AIXTRON's high temperature epitaxy technology for volume production of high performance SiC epi wafers / AIX G5 WW C system meets high quality demands of SiC power electronics

Herzogenrath/Germany, December 2, 2021 – Nexperia, the expert in essential semiconductor, is using AIXTRON SE (FSE: AIXA, ISIN DE000A0WMPJ6) production technology to enter the high performance SiC device market. For volume production of silicon carbide epi wafers for SiC power devices, Nexperia requires consistently excellent epi wafer quality, even at high volumes. At the same time, costs in the production of SiC devices can be reduced due to the high throughput.

As one of the leading experts in the field of volume production of semiconductor devices, Nexperia plans to continuously expand its portfolio of silicon carbide devices. AIXTRON, one of the leading suppliers of deposition equipment to the semiconductor industry, meets the high-quality requirements of silicon carbide wafers for power electronics with its fully automated AIX G5 WW C platform.

The AIX G5 WW C – The Reference for SiC Material Manufacturing Technology

"Wide-band-gap semiconductors such as gallium nitride and silicon carbide have unique physical properties. They enable high power density and efficiency at lower system and operating costs. SiC technology is also now advanced enough to meet the stringent requirements for mass production of devices for modern consumer and industrial products. Therefore, it is now time for Nexperia to take our next strategic step, the expansion of our portfolio to include power semiconductor devices based on silicon carbide," says Mark Roeloffzen, General Manager of the Bipolar Discretes Group at Nexperia.

He adds: "In the future, we will also cover the value-added stage of epi-wafer production in the field of high-performance components. For this important milestone, we know that AIXTRON is the right partner for Nexperia."

For decades, AIXTRON has been working with leading institutes and industry partners worldwide to exploit the benefits of new compound semiconductor material classes such as SiC and GaN for power electronics and is also opening up the use of 200mm wafers with the latest production technologies.

AIXTRON's latest generation Planetary Reactor® is specifically designed to meet the very high demands of SiC power electronics. The system ensures the necessary excellent quality of the epitaxial layers on the wafers and has therefore been qualified by market leaders in silicon carbide for the production of SiC devices.

SiC power electronics for the applications of the future

"Nexperia is positioning itself at the right time in one of the most exciting growth markets in the semiconductor industry. We are pleased that Nexperia has chosen us as a partner in this important strategic step into a new market of the future. The performance characteristics of the silicon carbide and gallium nitride material classes, with their high efficiency, offer highly attractive potential for energy savings, heat reduction, weight and system size reduction, and thus lower overall system costs," says Dr. Felix Grawert, CEO and President of AIXTRON SE.

"SiC and GaN semiconductors offer higher energy efficiency in applications compared to conventional power electronics based on silicon and thus contribute significantly to lower CO2 emissions. The properties of the materials predestine them in particular for applications in electric vehicles and their charging stations, data centers or in the field of renewable energies such as solar and wind power plants," adds Dr. Felix Grawert.

At the beginning of the year, Nexperia had already started a significant investment program both in the expansion of its production capacities, and in research and development worldwide. As part of its global growth strategy, planned investments in Europe this year include production efficiency improvements and the implementation of new 200mm technologies at its European wafer fabs in Hamburg, Manchester and Newport. In Hamburg, the company is investing in new technologies for the expansion of its "wide band gap" SiC power device offering.

To download photos, please click here: [AIXTRON](#) and [Nexperia](#)

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About AIXTRON

AIXTRON SE is a leading provider of deposition equipment to the semiconductor industry. The Company was founded in 1983 and is headquartered in Herzogenrath (near Aachen), Germany, with subsidiaries and sales offices in Asia, United States and in Europe. AIXTRON's technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and optoelectronic applications based on compound or organic semiconductor materials. Such components are used in a broad range of innovative applications, technologies and industries. These include Laser and LED applications, display technologies, data transmission, SiC and GaN power management and conversion, communication, signaling and lighting as well as a range of other leading-edge applications.

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For further information on AIXTRON (FSE: AIXA, ISIN DE000A0WMPJ6) please visit our website at: www.aixtron.com

About Nexperia

Nexperia is a leading expert in the high-volume production of essential semiconductors, components that are required by every electronic design in the world. The company's extensive portfolio includes diodes, bipolar transistors, ESD protection devices, MOSFETs, GaN FETs and analog & logic ICs. Headquartered in Nijmegen, the Netherlands, Nexperia annually ships more than 100 billion products, meeting the stringent standards set by the automotive industry. These products are recognized as benchmarks in efficiency – in process, size, power and performance — with industry-leading small packages that save valuable energy and space. With decades of experience in supplying to the world's leading companies, Nexperia has over 12,000 employees across Asia, Europe and the US. Nexperia, a subsidiary of Wingtech Technology Co., Ltd. (600745.SS), has an extensive IP portfolio and is certified to IATF 16949, ISO 9001, ISO 14001 and ISO 45001.

For further information on Nexperia please visit www.nexperia.com

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