Navitas Showcases Advances in GaN and SiC Technologies, Including World's First Production Released 650V Bi-Directional GaNFast™ ICs at PCIM 2025

April 22, 2025

Latest releases include bi-directional GaNFast ICs with IsoFast™ drivers, auto-qualified GaNSafe ICs, dedicated GaNSense Motor Drive ICs, and high-reliability SiCPAK modules

TORRANCE, Calif., April 22, 2025 (GLOBE NEWSWIRE) -- Navitas Semiconductor (Nasdaq: NVTS), the only pure-play, next-generation power semiconductor company and industry leader in gallium nitride (GaN) power ICs and silicon carbide (SiC) technology, will be exhibiting several GaN and SiC breakthroughs in AI data centers, EVs, motor drives, and industrial applications at PCIM 2025 (6th – 8th May, 2025).

PCIM is the leading exhibition for power electronics, intelligent motion, renewable energy, and energy management. Visitors are invited to visit the "Planet Navitas" booth (Hall 9, Booth #544) to learn about Navitas' mission to 'Electrify our World™' by advancing the transition from legacy silicon to next-generation, clean energy, GaN and SiC power semiconductors.

Major technology and system breakthroughs include:

- The world's first production-released 650 V bi-directional GaNFast ICs and IsoFast, high-speed isolated gate-drivers. This creates a paradigm shift in power by enabling the transition from two-stage to single-stage topologies. Targeted applications range widely across EV charging (On-Board Chargers (OBC) and roadside), solar inverters, energy storage, and motor drives. The recorded launch event video can be viewed here.

- Automotive-qualification high-power GaNSafe™ ICs, which have been qualified to both Q100 and Q101, unlocking unprecedented power density and efficiency for on-board chargers (OBCs) and HV-LV DC-DC converters applications. A comprehensive reliability report has been created that analyzes over 7 years of production and field data and demonstrates GaN's technology track record, alongside generational and family improvements in robustness and reliability, establishing GaN power ICs as highly reliable and automotive-ready.

- The latest release of the SiCPAK power modules, which utilize advanced epoxy-resin potting technology and GeneSiC™ trench-assisted planar technology, to enable 5x lower thermal resistance shift for extended system lifetime. Rigorously designed and validated for the most demanding high-power environments, they prioritize reliability and high-temperature performance. Target markets include EV DC fast chargers (DCFC), industrial motor drives, interruptible power supplies (UPS), solar inverters and power optimizers, energy storage systems (ESS), industrial welding, and induction heating.

- Newly released GaNSense™ Motor Drive ICs with bi-directional loss-less current sensing, voltage sensing, and temperature protection, further enhance performance and robustness beyond what is achievable by any discrete GaN or discrete silicon devices.

- Automotive Qualified (AEC-Q101) Gen-3 Fast SiC MOSFETs with 'trench-assisted planar' technology: Enabled by over 20 years of SiC innovation leadership, GeneSiC™ technology leads on performance with the Gen-3 'Fast' SiC MOSFETs with 'trench-assisted planar' technology. This proprietary technology provides world-leading performance over temperature, delivering cool-running, fast-switching, and superior robustness to support faster charging EVs and up to 3x more powerful AI data centers.

- GaNSlim ™: Simple. Fast. Integrated: A new generation of highly integrated GaN power ICs that will further simplify and speed up the development of small form factor, high-power-density applications by offering the highest level of integration and thermal performance. Target applications include chargers for mobile devices and laptops, TV power supplies, and lighting systems of up to 500W.

- World's First 8.5 kW AI Data Center Power Supply : See the world's first 8.5 kW OCP power solution achieving 98% efficiency for AI and hyperscale data centers. Featuring high-power GaNSafe™ power ICs and Gen-3 Fast SiC MOSFETs in 3-Phase Interleaved CCM Totem-Pole PFC and 3-Phase LLC topologies to provide the highest efficiency, performance, and lowest component count.

- World's Highest Power Density AI Power Supply : Navitas delivers efficient 4.5 kW power in the smallest power-supply form factor for the latest AI GPUs that demand 3x more power per rack. The optimized design uses high-power GaNSafe ICs and Gen-3 Fast SiC MOSFETs enabling the world's highest power density with 137 W/in^3 and over 97% efficiency.

- 'IntelliWeave' Patented Digital Control Optimized for AI Data Center Power Supplies: Combined with high-power GaNSafe™ and Gen-3 'Fast' SiC MOSFETs to enable PFC peak efficiencies of 99.3% and reduce power losses by 30% compared to existing solutions.

To schedule a customer meeting with Navitas, please inquire here.
To schedule a press meeting, please book here (via Calendly)
To schedule an IR meeting, please book here (via Calendly)

About Navitas
Navitas Semiconductor (Nasdaq: NVTS) is the only pure-play, next-generation power-semiconductor company, celebrating 10 years of power innovation founded in 2014. GaNFast™ power ICs integrate gallium nitride (GaN) power and drive, with control, sensing, and protection to enable faster charging, higher power density, and greater energy savings. Complementary GeneSiC™ power devices are optimized high-power, high-voltage, and high-reliability silicon carbide (SiC) solutions. Focus markets include EV, solar, energy storage, home appliance / industrial, data center, mobile, and consumer. Over 250 Navitas patents are issued or pending, with the industry's first and only 20-year GaNFast warranty. Navitas is the world's first semiconductor company to be CarbonNeutral®-certified.

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A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/2fbe3bfb-11ee-4a05-897e-d23ddfc0168d

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Source: Navitas Semiconductor Corporation