Navitas Produces World’s First Integrated Half-Bridge GaN Power IC

*Unprecedented AllGaN™ integration solves 30-year industry challenge in high-speed, high-voltage power electronics*

EL SEGUNDO, CA (PRWEB) February 21, 2017 -- Navitas Semiconductor today announced a major technology breakthrough with the introduction of the industry’s first integrated half-bridge Gallium Nitride (GaN) Power IC. Half-bridge circuits are essential building blocks in the power electronics industry, used in everything from smartphone chargers and laptop adapters, to TVs, solar panels, data centers and electric vehicles.

Navitas’ proprietary AllGaN half-bridge GaN Power IC with iDrive™ monolithically integrates all the functions required to deliver switching speeds of up to 2 MHz and enable a dramatic reduction in size, cost and weight while delivering faster charging. Previously, older silicon-based half-bridge components suffered from slow switching and parasitic power losses, slowing speeds by up to 30x.

The first half-bridge GaN Power IC is the 650V-rated NV6250, in a 6x8mm QFN complete with dual drivers, level shifter, dual 560mOhm power FETs, bootstrap circuit and extensive protection features. Simple, low-power digital PWM inputs switch the half-bridge effortlessly at all frequencies, with significant ease-of-use and layout flexibility for the power system designer. The NV6250 is compatible with a wide range of analog and digital controllers from multiple IC partners.

“This is an exciting time in the field of power electronics”, explained Navitas CEO Gene Sheridan. “High-voltage, high-speed power systems are now commercially viable and will enable a new class of high-density, fast-charging and lower-cost power systems. Since Navitas first demonstrated the half-bridge at APEC 2015, we have worked closely with partners to create the next generation of adapters and chargers with breakthrough size and efficiency. Our earlier announcement of the AllGaN platform’s JEDEC qualification demonstrates GaN’s maturity and readiness” Sheridan added.

“The perennial difficulty with the half-bridge topology in high-frequency applications is how to power and control the high-side switch precisely, quickly and efficiently”, said Dr. Milan M. Jovanovic, Senior VP of R&D at Delta, the global leader in design and manufacturing of power supplies. “By integrating the critical level-shifting, bootstrap, and dual-drive functions, all in Gallium Nitride, major practical challenges have been solved, paving the way for MHz high-voltage power systems.”

"MIT has studied the opportunities and the limitations in high-frequency power converters for more than a decade”, said Professor David Perreault, leader of the MIT Power Electronics Research Group. “One key bottleneck in many designs has been the limitation in high-speed level shifting and driving of high-side devices. The introduction of high-voltage GaN Power ICs with integrated, high-speed drivers has tremendous potential in many applications. Congratulations, Navitas!” Perreault concluded.

Samples and demonstration boards for the NV6250 are available immediately to qualified customers, with production planned for Q2, 2017.

Navitas will demonstrate the NV6250 and other AllGaN™ GaN Power ICs in a private suite at the Applied Power Electronics Conference (APEC) March 26th – 30th, 2017 in Tampa, Florida. Please contact Navitas (+1
ThinkGaNIC (+1-844-654-2642)) to book a review.

**About Navitas:**
Navitas Semiconductor Inc. is the world’s first and only GaN Power IC company, founded in El Segundo, CA, USA in 2013. Navitas has a strong and growing team of power semiconductor industry experts with a combined 200 years of experience in materials, devices, applications, systems and marketing, plus a proven record of innovation with over 200 patents among its founders. The proprietary AllGaN™ process design kit monolithically integrates the highest performance GaN FETs with logic and analog circuits. Navitas GaN Power ICs enable smaller, higher energy efficient and lower cost power for mobile, consumer, enterprise and new energy markets. Over 25 Navitas patents are granted or pending.

###

Navitas Semiconductor and the Navitas logo are trademarks or registered trademarks of Navitas Semiconductor, Inc. All other brands, product names and marks are or may be trademarks or registered trademarks used to identify products or services of their respective owners.
Contact Information
Stephen Oliver
Navitas Semiconductor
http://www.navitassemi.com
+1 9782892364

Online Web 2.0 Version
You can read the online version of this press release here.