

Transphorm Releases First JEDEC-Qualified 600 Volt GaN on Silicon Power Devices

Major milestone for GaN power electronics; JEDEC qualification of GaN on silicon enables mass adoption price points for devices providing dramatically improved power efficiency

Goleta, CA –March 14, 2013–Transphorm Inc. today announced the Total GaN™ family of GaN (Gallium Nitride) on silicon transistors and diodes, establishing the world's first JEDEC-qualified 600 V GaN device platform. This marks a significant milestone in the broad adoption of GaN-based power electronics in power supplies and adapters, PV inverters for solar panels, motor drives, as well as power conversion for electric vehicles.

Based on Transphorm's patented, high-performance EZ-GaN™ technology, the TPH3006PS GaN high electron mobility transistor (HEMT) combines low switching and conduction losses to reduce energy loss by 50 percent compared to conventional silicon-based power conversion designs. The TO-220-packaged GaN transistor features low on-state resistance ($R_{DS(on)}$) of 150 milliohms (mΩ), low reverse-recovery charge (Q_{rr}) of 54 nanocoulombs (nC) and high-frequency switching capability — all of which result in more compact, lower cost systems. Also available in industry-standard TO-220 packages, the TPS3410PK and TPS3411PK GaN diodes offer 6 A and 4 A operating currents, respectively, with a forward voltage (V_f) of 1.3 Volts. In addition, three application kits — PFC (TDPS400E1A7), Daughter Board (TDPS500E0A) and Motor Drive (TDMC4000E0I) — are available for rapidly benchmarking the in-circuit performance of Transphorm's products.

“Solidifying its leadership position in high-voltage GaN power conversion solutions, Transphorm has accomplished the first qualification of 600 V GaN devices on silicon substrates,” said Primit Parikh, President of Transphorm. “This is critically important because it allows manufacturers to access the energy savings from our GaN transistor and diode products with the cost benefits of silicon. The introduction of the Total GaN family dispels the myth that qualification of high-voltage GaN on silicon is not possible, and enables the introduction of new power products in the marketplace that are dramatically more efficient compared to silicon-based products. Transphorm is today driving the next power standard.”

Transphorm's proprietary EZ- GaN platform can reduce power system size, increase energy density and deliver high efficiencies across the grid. For manufacturers looking

for a low-risk roadmap to the next generation of power conversion technology, EZ-GaN provides a cost-effective, customizable and easy-to-use solution ready for commercial scale.

For approved customers, the TPH3006PS HEMT device is available for sale at a price of \$5.89 each in 1,000 quantities. The TPS3410PK and TPS3411PK diodes are priced at \$2.06 and \$1.38, respectively, also in 1,000-piece quantities.

About Transphorm

Transphorm is redefining electric power conversion, providing cost-competitive and easy-to-embed power conversion devices and modules that reduce costly energy loss by over 50 percent, and simplify the design and manufacturing of motor drives, power supplies and inverters for solar panels and electric vehicles. From material technology and device fabrication to circuit design and module assembly, Transphorm designs and delivers its power conversion devices and modules to meet the needs of global customers. By creating an ecosystem of electrical systems manufacturers powered by Transphorm, the company accelerates the adoption of power devices and modules that pave the way for the next generation of electrical systems designed for optimal efficiency.

To learn more about Transphorm, please visit www.transphormusa.com.

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