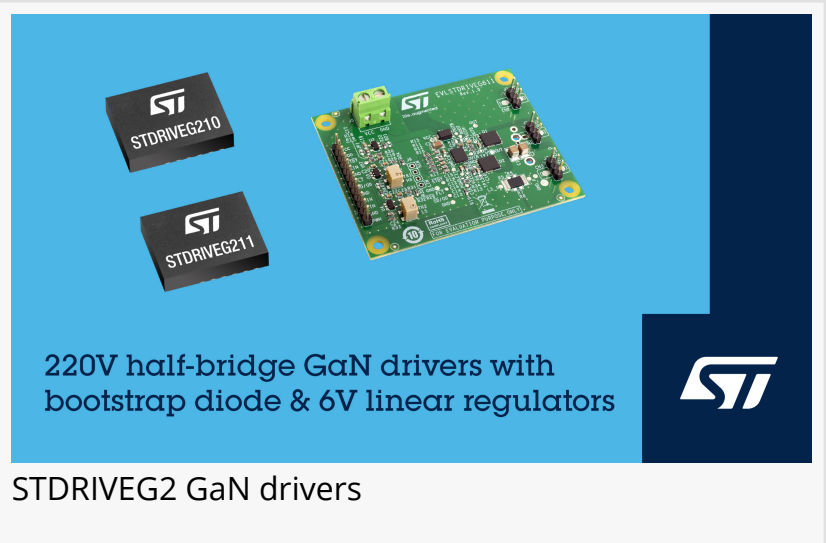


STMicroelectronics' half-bridge gate drivers ease design with GaN in low-voltage systems

Target power-conversion applications for industrial equipment and computer peripherals

GENEVA, SWITZERLAND, October 9, 2025 /EINPresswire.com/ --

STMicroelectronics' [STDRIVEG210](#) and [STDRIVEG211](#) half-bridge gallium nitride (GaN) gate drivers are tailored for systems powered from industrial or telecom bus voltages, 72V battery systems, and 110V AC line-powered equipment. Rated for maximum rail voltage of 220V, the drivers integrate linear regulators to generate high-side and low-side 6 V gate signals and provide separate sink and source paths for optimum control.



The STDRIVEG210 is featured for power-conversion applications such as server and telecom supplies, battery chargers, adapters, solar micro-inverters and optimizers, LED lighting, and USB-C power sources. Suitable both for resonant and hard-switching topologies, its 300ns startup time permits to minimize the wake-up time especially during intermittent operation (burst mode).

The STDRIVEG211, equipped with overcurrent detection and smart shutdown, targets motor drives in power tools, e-bikes, pumps, and servos, as well as class-D audio amplifiers, in addition to power supplies.

Both devices simplify and minimize BOM by integrating the bootstrap diode to easily supply high-side driver. The separate gate-driving paths can sink 2.4A and source 1.0A to ensure fast switching transitions and easy dV/dt tuning. Protection features include interlocking to prevent cross conduction, while the high-side and low-side drivers have a short propagation delay with 10 ns matching time for low dead time operation. Under-voltage lockout (UVLO) prevents operating in low-efficiency or dangerous conditions and the STDRIVEG211, which is oriented towards motor-drive applications, has additional high-side UVLO protection.

The devices also have over-temperature protection and dV/dt immunity up to $\pm 200V/ns$, while input-voltage tolerance up to 20V helps simplify the controller interface circuitry. A standby pin facilitates power management and a separated power ground allows optimal Kelvin source gate driving or the use of a current shunt.

The STDRIVEG210 and STDRIVEG211 are in production now, in a compact 5mm x 4mm 18-lead QFN package, and available from \$1.22 for orders of 1000 pieces.

Please visit www.st.com/innovative-stdrive-gan-drivers for more information.

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