

## ON Semiconductor's NCP51820 High Speed GaN Gate Driver Named a 2019 Top-10 Power Product in China

*Industry recognizes the first high-performance, 650 V high speed half-bridge gate driver for GaN power switches*

**BEIJING, China – Sept 10, 2019** – ON Semiconductor (Nasdaq: ON), driving energy efficient innovations, announced today that its [NCP51820 High Speed Gate Driver](#) has won a 2019 Top-10 Power Product Award organized by 21ic.com. This annual awards program is recognized as an industry benchmark in identifying the 10 most innovative power products with technological advancement in China.

The NCP51820 from ON Semiconductor is a technically advanced solution that is designed specifically to meet the stringent requirements of driving enhancement mode GaN devices in offline, half-bridge power topologies.



The winning device offers a number of unique features including a regulated gate drive output voltage optimized for GaN and separate source and sink pins for EMI noise tuning. The driver provides short propagation delay of <math><25\text{ ns}</math> and its advanced level shift technology enables  $-3.5\text{ V}$  to  $+650\text{ V}$  (typical) common mode voltage range for the high-side drive and  $-3.5\text{ V}$  to  $+3.5\text{ V}$  common mode voltage range for the low-side drive. In addition, the device also supports stable  $dV/dt$  operation up to  $200\text{ V/ns}$  for both driver output stages, ensuring robust performance in high speed switching applications.

GaN technology has the potential to deliver lower switching losses with higher power density, but realizing these benefits depends on access to a gate drive circuit that is optimized for GaN, with robust protection features. To fully protect the gate of the GaN power transistor against excessive voltage stress, both drive stages of the NCP51820 employ a dedicated voltage regulator to accurately maintain the gate-source drive signal amplitude. ON Semiconductor's NCP51820 also offers important protection functions such as independent under-voltage lockout (UVLO), monitoring VDD bias voltage and VDDH and VDDL driver bias and thermal shutdown based on the die junction temperature of the device.

Commenting on the award, Ryan Zahn, Director of Marketing and Applications at ON Semiconductor said: "We are very proud that the panel of judges of 21ic.com has recognized our NCP51820 for its advanced and unique features. Given the rising energy costs and limited space available, the demand for smaller and more efficient power solutions continues to grow. Our NCP51820 breaks through the limitations of the traditional isolated half-bridge gate driver and also integrates the optimized GaN gate driver to achieve the simplest and most cost-effective GaN-based solution."