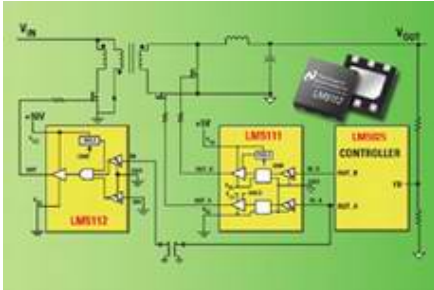


National Expands Industry-Leading Family of Gate Drivers with the Introduction of Two Ultra-Small Products



National Semiconductor Corporation today introduced the latest additions to its family of high-voltage power control integrated circuits designed to provide efficient DC-DC power supply solutions. The dual-channel LM5111 and single-channel LM5112 are gate drivers that offer flexible solutions in some of the industry's smallest packages, making them ideal for driving large power [MOSFETs](#) used in AC-DC and DC-DC converters, motor drives and industrial control systems.

The LM5112, available in a tiny 3 mm by 3 mm LLP-6 package, also enables the design of high-performance DC-DC converters when used as part of a chipset with National's LM5000 family of pulse width modulation (PWM) controllers and LM510x half-bridge drivers.

"With the introduction of the LM5111 and LM5112, National continues to provide industry-leading power components in tiny, thermally enhanced packages that arm designers with the flexibility necessary to optimize today's highly compact and efficient power converters," said Paul Greenland, marketing director for National Semiconductor's Power Management group. "The LM5112, for example, provides a whopping 7 A peak (Apk) gate drive, yet is packaged in the industry's smallest thermally enhanced package. As part of a chipset, it may be used with any of National's PWM controllers to form a complete, high-speed, primary- or secondary-side power solution."

About the LM5111 and LM5112

The LM5112 operates at high speeds with minimal delay and high peak output currents. Designed using National's high-voltage Analog-BiCMOS-DMOS (ABCD) technology, the LM5112's compound output driver stage includes MOS and bipolar transistors operating in parallel. This combination can sink more than 7 Apk from capacitive loads, driving large power MOSFETs at frequencies up to 1 MHz. A major benefit of the unique compound drive stage is that it offers users more reliable operation by reducing drive current variations during supply voltage and temperature changes.

The LM5112 also provides separate ground and reference pins for the input and output stages to support split-supply gate drive configurations. Because its dual-logic interface accepts either inverting or non-inverting signals, the LM5112 is flexible enough to interface with most power controllers and microprocessors on the market today.

The LM5111 offers two full 5 Apk drivers in a SOIC-8 package that can directly replace many older CMOS gate drive solutions, while offering an improved peak output current of 5 Apk compared to 2 Apk, as well as higher-efficiency operation. The dual-channel LM5111 deploys the same advanced compound driver technology as the single-channel LM5112. The LM5111 also allows the normally separate 5 Apk drive channels to be tied in parallel with their inputs and outputs connected, doubling the output drive

current capacity to 10 Apk for driving extremely large power MOSFETs very efficiently at high speeds of up to 1 MHz. It is available in three different input signal options: the two channels can be non-inverting, inverting or a combination of the two.

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