

National Semiconductor Introduces Power Management Solutions for Xilinx FPGAs

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New Design Guide for Xilinx FPGAs Provides System Designers with One-stop Shopping for National's Power Management Products

July 20, 2004 - [National Semiconductor Corporation](#) today announced an easy-to-use design guide that addresses the power management requirements of the most popular field programmable gate arrays (FPGAs) from [Xilinx®](#).

National's FPGA design guide includes selection tables linking Xilinx FPGAs with corresponding National Semiconductor voltage regulators, voltage supervisors and voltage references that meet the power management requirements of each FPGA. It also includes schematics for seven complete reference designs, with fully optimized power supplies for each of the Xilinx FPGAs featured in the guide.

In addition to the design guide, National offers an expanded, dynamic web page at www.national.com/appinfo/power/xilinfpga.html that recommends National's power management, thermal management, interface, networking and Bluetooth® wireless technology products for use with Xilinx FPGAs.

To complement the design guide, Avnet Digital Services, the technical arm of Avnet Cilicon, is offering National's and Xilinx's products for sale throughout North America. Avnet Cilicon is franchised to support and sell both National Semiconductor and Xilinx products.

"FPGAs are evolving rapidly and manufacturers are quickly adopting leading-edge process geometries. They are also integrating more and more complex functions such as processors, multi-gigabit transceivers and support for multiple I/O standards. As a result, there is a need to quickly provide suitable power solutions," said Jasbinder Bhoot, manager, Strategic Solutions, Xilinx. "To

this end, we will continue working with National Semiconductor and others to provide design guides for powering our FPGAs efficiently. Our goal is to make our FPGAs even more attractive for system designers based on new levels of flexibility, price, performance and time-to-market benefits."

"National's FPGA design guide allows us to partner with digital leaders and develop smart ways to power their digital cores with our strong portfolio of switching converters, low drop-out regulators, precision references and intelligent supervisory products," said Jeff Bessa, Americas marketing director for National Semiconductor. "National worked closely with Xilinx, the industry's FPGA leader, to solve one of the major design challenges faced by digital engineers. Now, designers don't need analog expertise to design FPGA power supplies because National includes complete power management reference designs for Xilinx FPGAs. At the end of this process, we have helped accelerate an engineer's time to market."

National plans to expand its Xilinx FPGA analog solutions program by continually adding tools and solutions to the design guide and web sites, and by expanding the analog and mixed-signal product offerings available for use with FPGAs.

About National's FPGA Design Guide

National's power management FPGA design guide features detailed selection guides for the most popular FPGAs from Xilinx, including the Virtex™ and Spartan™ FPGA families. It provides multiple power management solutions from National to handle the different supply voltages required by each FPGA in different applications, such as those that are powered from the popular 3.3V, 5.0V and 12V rails. The guide also has commonly used topologies for buck, synchronous buck, single inductor step-up and step-down, and linear functions, as well as detailed reference designs for each of the featured Xilinx FPGAs. Information on National's WEBENCH® online design tool is also

included, and many of the power management products featured are available for complete electrical and thermal design and simulation using the WEBENCH tool. Finally, Avnet Cilicon, through their Avnet Design Services group, is offering a programmable power supply kit based on National's LM2636 switching controller IC, designed for the Xilinx FPGAs featured in the guide.

National's Power Management Products

National Semiconductor is the number one supplier of voltage regulator and reference ICs with 12.8 percent market share, up from 11.5 percent in 2002, according to iSuppli's 2004 voltage regulator/reference survey. Voltage regulators and references are the largest segment in the power management market. According to the same survey, National's revenue in this area grew 29.7 percent in 2003 over the previous year, compared to 17.3 percent growth for the industry during the same time period. National's innovative power management products include industry-leading distributed power, digital core and I/O power, signal-path power, and lighting management solutions, as well as power monitoring, control and reference ICs. National's WEBENCH online design tool allows designers to create and analyze a design, and then build a prototype from a custom design kit delivered within 24 hours. More information about National's power management products is available at power.national.com.

The original press release can be found [here](#).

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