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ADVANCED INTERFACE TECHNOLOGIES

Fact Sheet
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NEC Electronics America, Inc. is a leading provider of high-speed interface technologies for PC, server, storage, networking and communication applications. As a key member of the working groups responsible for defining and implementing the standards for these new technologies, the company is committed to being at the forefront of emerging interface technology development and to reinforcing its leadership position in the high-end system LSI arena.

As a leading ASIC supplier, NEC Electronics America offers intellectual property (IP) cores that deploy Wireless USB, USB 2.0, Serial ATA, PCI Express® and Gigabit SerDes technology in custom designs. The company also has a broad portfolio of discrete USB 2.0 and Wireless USB solutions and has been working with the USB 3.0 Promoter Group to define the USB 3.0 standard.

ADVANCED MEMORY BUFFER ASSPS

- Compliant with the JEDEC standard for fully buffered (FB) DIMM
- FBDIMM channel bit rates of 3.2, 4.0 and 4.8 Gbps
- Direct connection to 533, 667, and 800 MHz DDR2 SRAM
- Quad rank and low-voltage FBDIMM support
- Forwarding of southbound and northbound frames
- FBDIMM configuration register set
- FBDIMM failover modes to minimize system down time
- Transparent mode for DRAM testing
- Voltage margin testing
- Logic to support MEMBIST and IBIST design for test (DFT) functions
- Thermal sensor interface with accuracy of ±3°C

WIRELESS USB

- Wireless extension of USB 2.0
- USB-IF-certified Wireless USB host controller and device wire adapter (DWA)
- Solutions that enable wireless data rates up to 480 Mbps
- Compliant with WiMedia MAC-PHY Interface Specification
- Compliant with Wireless USB Association Model Guideline
- Host controller that demonstrates exceptional performance due to its architecture and PCI™ and PCI Express interfaces
- DWA that works as a wireless or wired four-port hub
- Microsoft® Windows® XP and Windows Vista® driver support for PC solution

PCI EXPRESS IP CORES

- Transceiver core and generic controller with data link and transaction layer architecture
- Applicable for root complex, switch, bridge, and endpoint controllers
- Physical layer based on NEC Electronics' SerDes technology
- Compliant with the PCI Express Base 2.0 specification
- SR-IOV support
- Support for multiple outstanding requests with either a 32-, 64-, or 128-bit back-end bus
- Support for ×1, ×2, ×4, ×8 and more lanes
- NEC Electronics' 0.15- and 0.09-micron CMOS technology nodes

USB 2.0 PRODUCTS FOR PCS, PC PERIPHERAL DEVICES, AND EMBEDDED SYSTEMS

- World's first Certified USB 2.0 EHCI-compliant host controller
- World's first Certified USB 2.0 hub controller, four-port hub, and seven-port hub controller
- Low-power Certified USB 2.0 integrated development environment (IDE) bridge controller for IDE devices and bus-powered applications
- Integrated host and peripheral controller chip with generic 16-bit CPU bus interface
- CMOS-based, low-power Universal Transceiver Macrocell Interface (UTMI) PHY IP core
- Generic device controllers combining a PHY layer and endpoint controller
- Exceptional development tools and full technical support

SERDES MACRO

- 6.4 Gbps SerDes IP core
- NEC Electronics' 0.15- and 0.09-micron CMOS technology node
- Interface between new NEC Electronics interface IP cores and switch fabric in user designs
- Transmitter and receiver function incorporated into a single instance
- Scalable from one to 16 instances per each common block
- Key component for PCI Express Base 2.0, Serial ATA 3.0, backplane, CEI-6G-SR and 2× XAUI applications

SERIAL ATA MACRO

- Compliant with 1.5 and 3.0 Gbps Serial ATA specifications
- Compliant with SATA-IO interoperability test requirements
- Scalable from 1 to 8 channels per each common block
- Physical layer, link layer and transport layer IP cores for use in custom SoCs
- NEC Electronics' 0.15- and 0.09-micron CMOS technology nodes
- Evolutionary replacement for parallel ATA technology
- Suitable for use in hard disk drives, optical disk drives, solid-state disk drives, consumer data storage devices, redundant array of independent disk (RAID) systems and network storage equipment

NEC Electronics America, Inc.

NEC Electronics America, Inc., headquartered in Santa Clara, California, is a wholly owned subsidiary of NEC Electronics Corporation (TSE: 6723), a leading provider of semiconductor products encompassing advanced technology solutions for the broadband and communications markets; system solutions for the mobile, PC, automotive and digital consumer markets; and platform solutions for a wide range of customer applications. NEC Electronics America offers a local manufacturing facility in Roseville, California, and the global manufacturing capabilities of its parent company. NEC Electronics America is also the marketing and sales channel in the Americas for industrial-type, active-matrix LCDs from NEC LCD Technologies, Ltd., a global leader in innovative display technologies. More information about the products offered by NEC Electronics America, Inc. can be found at http://www.am.necel.com.

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