NEC Electronics Introduces Eight New 8-bit Body Control MCUs with Industry's Leading Low Standby Power Consumption for Low-End Automotive Applications

KAWASAKI, Japan, SANTA CLARA, Calif. (U.S.A.), DUESSELDORF, Germany, December18, 2009--NEC Electronics (TSE: 6723) today announced the availability of eight new All Flash™ microcontrollers (MCUs) for low-end automotive systems such as motor control and lighting control applications. The new offering includes three 16-pin MCUs (78K0/FY2-L), three 20-pin MCUs (78K0/FA2-L) and two 30-pin MCUs (78K0/FB2-L), featuring the industry's leading low standby power consumption of 0.65 microamps (µA) and capable of responding to all temperature environments.

As the demand for increased functionality in automotive systems accelerates, the number of electronic control units in automobiles rises as well. Manufacturers are under intense pressure to cut costs even as they deliver more sophisticated electronics modules, creating a need for components that can enable more precise motor control at lower development costs and lower power consumption. NEC Electronics' new MCUs address these needs and will help to reduce the development burden on automotive manufacturers. Consumers also will benefit by having access to more sophisticated, eco-friendly products. Based on the same architecture as the company's existing 8-bit 78K0 CPUs, the new MCUs are ideal for larger main controllers, and for electronic controls such as full-bridge control of high-density discharge (HID) lamps, full/half-bridge control of motor switching, switching control of solenoid drivers and pulse-modulation (PWM) for LED dimming.

Primary features of the new body-control MCUs

1. Industry-leading low standby power consumption

By utilizing low power consumption technology accumulated through its 8-bit MCU development, NEC Electronics succeeded in achieving the industry's leading low standby power consumption of 0.65 µA, while the watchdog timer is operating. Furthermore, it enables low active power consumption of 220 µA per megahertz (MHz) during CPU operation. By using the internal 4MHz oscillator system, manufacturers can reduce both development and production costs.

2. Built-in LIN interface

The new MCUs all include a LIN interface, as well as up to 16 kilobytes (KB) of flash, doubling the company's existing products and providing enough memory capacity for LIN network designs.

3. Extensive variety of peripheral functions including comparators and full/half-bridge control timers

NEC Electronics' MCUs integrate a rich set of peripherals such as a PWM timer (with dead-time) for motors and solenoid actuators. Also included are comparators for instant control of timers, which provide the ability to detect overcurrent and overvoltage without the need of CPU intervention and enable system manufacturers to reduce external components and trim system development costs.

4. Software compatibility

System manufacturers of NEC Electronics' previous versions of the 78K0/Kx2 and 78K0/Fx2 MCUs can maintain backward compatibility with the software and also develop LIN slave products utilizing the same architecture, contributing to a smooth transition and faster time-to-market. The new MCUs also support EEPROM emulation using the flash memory to facilitate software development.

NEC Electronics believes these new MCUs will contribute to the increased body application functionality and cost-efficiency in automotive systems and aims to expand further its lineup of automotive body-control MCUs. More information can be found at http://www.am.necel.com/micro/product/device_overview.php?category=8-bit-CAN-AllFlash.

Availability

Samples of the new MCUs are currently available. Mass production is scheduled to begin in June 2010 and is expected to reach a monthly production of 300,000 units by June 2015. More information about NEC Electronics' extensive MCU product offerings can be found at http://www.am.necel.com/micro. (Availability is subject to change without notice.)

#1 Supplier Worldwide for 32-bit Microcontrollers

NEC Electronics Corporation has retained the number one supplier ranking for 32-bit microcontrollers (MCUs) worldwide based on revenue in 2007 and 2008 as ranked by Gartner in its April 2009 report. In addition, the company has moved into the number one position for 32-bit automotive MCUs; the number two position for overall MCUs, and the number two position for 8-bit MCUs. More information can be found at http://www.am.necel.com/micro.

About NEC Electronics

NEC Electronics Corporation (TSE: 6723) specializes in semiconductor products encompassing advanced technology solutions for the high-end computing and broadband networking markets, system solutions for the mobile handset, PC peripheral, automotive and digital consumer markets, and multi-market solutions for a wide range of customer applications. NEC Electronics Corporation has 24 subsidiaries worldwide including NEC Electronics America, Inc. and NEC Electronics (Europe) GmbH. For additional information about NEC Electronics worldwide, visit www.necel.com.

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