Renesas develops first 40nm embedded flash memory technology IP for automotive real-time applications

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Renesas Electronics today announced that it has developed the industry's first 40-nanometer (nm) memory intellectual property (IP) for automotive real-time applications. Renesas will also be the first to launch 40nm embedded flash microcontrollers (MCUs) for automotive applications using this 40nm flash technology with samples available by the beginning of autumn 2012.

Renesas has proven experience in developing flash MONOS (metal oxide nitride oxide silicon) technology with high quality and reliability. Renesas was notably also the first to launch the 90nm automotive flash MCU products in 2007.

Renesas flash MONOS technology is scalable while providing both high reliability and high performance at the same time. Evaluation results available from 40nm flash test devices prove that excellent characteristics for three critical parameters (data retention, program/erase cycle endurance and programming time) have been achieved successfully. The 40nm process node enables integration of several functional safety-related and communication interface.

The Renesas 40nm flash memory IP guarantees 20 years of data retention, and can be read from up to 170°C junction temperature. Additionally, the code flash supports read speed of 120 megahertz (MHz), and the data flash achieves industry-leading long data-retention

period of 20 years even after 125,000 of program/erase cycles.

Provided by Renesas Electronics