

Low-power microcontroller family with up to 1MB of on-chip flash unveiled

March 7 2013

Renesas Electronics today announced the availability of a large number of new low-power, low voltage microcontrollers (MCUs). By expanding the low-power, low-voltage RX200 Series to include versions offering from 64 KB to 1 MB of on-chip flash memory, and package sizes from 48-pin LQFP to 145-pin LGA, Renesas now offers the broadest range of low-power 32-bit solutions in the industry. Combined with active mode power consumption of 7.2 mA at 50 MHz operation and a standby mode of 0.4 μ A, the RX200 series is positioned to become the de-facto choice of designers looking for the lowest power and highest performance in a 32-bit MCU.

"Embedded MCU applications like [smart meters](#) and portable healthcare devices require increased levels of [functionality](#) while operating under very low power and varying voltage constraints," said Ritesh Tyagi, senior director, Microcontroller Products & Solutions Marketing, Renesas Electronics America Inc. "The combination of the high-performance 32-bit RX CPU, which delivers 3.08 CoreMark / MHz, and operation at voltages as low as 1.62v and as high as 5.5v, means that the RX200 family provides system designers with the highest possible performance across the widest range of system requirements..

The RX200 series

The RX200 series of MCUs is a member of the broad and scalable RX family of 32-bit MCUs from [Renesas](#). The powerful RX CPU core

offers an ideal balance of high performance and low power that is essential to emerging "smart" applications in appliances, 21st century building automation, advanced lighting and metering. The RX200 series is based on an advanced, low-power flash process, designed to meet the latest requirements of the next generation of lower power applications. The flash memory offers reprogramming across the full voltage range, from 1.62 – 5.5v with E2dataFlash that offers 100k write erase cycles while guaranteeing data retention of up to 30 years.

New RX210 group

The RX210 group offers an industry-leading lineup of low-power, 32-bit devices, offering the widest range of memory size and package options and suitable to support every low power application that needs 32-bit performance. The RX210 group supports powerful on-chip peripherals, and a multitude of on-chip timers, including motor control timers, a Real Timer Clock and watchdog timers. All RX210 products include including UART, SPI & I2C support, a 12-bit ADC and 10-bit DAC, DMA controllers, an on-chip event system, a peripheral mapping controller and a wide variety of on-chip safety and reliability functions designed to support IEC60730 (VDE compliant software libraries available).

The new products announced are completing the existing RX210 lineup with variants from 100 pin to 145 pins, with 768KB and 1 MB flash, 96KB of embedded SRAM, and up to 15 on-chip serial interfaces.

Pricing and availability

The new RX210 variants are now available in sample quantities and will be available in mass production by the end of March 2013. Pricing will vary based on configuration. For example, the RX210 device with 1MB

flash, 96K RAM and 100 LQFP is priced at \$5.13 per unit in 10,000-unit quantities; devices with 1MB flash, 96K RAM and 144 LQFP are priced at \$5.98 per unit in 10,000-unit quantities.

Provided by Renesas Electronics

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