RX200, Low power, low voltage Microcontroller
RX210

The new RX200 Core, offers the powerful, RX 32-bit CPU core combined with a wide operating voltage range and huge range of on-chip peripherals.

Key features

- Powerful 1.56 DMIPs / MHz RX CPU Core
- Flash Operation (read and write) from 1.62 V – 5.5 V
- 200 μA/MHz Operation
- 1.3 μA RTC mode
- EE dataflash with 100 k w/e & BGO
- Highly integrated
- Powerful in circuit debug solution

Product release

RX210 1st Release 28 Products

ROM / RAM

■ 1st Product
■ Planning

ROM / RAM						
1 MB / 96 KB						
768 / 96 KB						
512 / 64 KB						
384 / 64 KB						
256 / 32 KB						
128 / 20 KB						
96 / 16 KB						
64 / 12 KB						
48 / 10 KB						
32 / 8 KB						
Pin	48 100 145	64 100 145	48 64 80 100 144	48 64 100	80	36 48 64
Pin Pitch	0,50 mm	0,65 mm	0,50 mm	0,65 mm	0,80 mm	0,65 mm
Package	LGA		QFP			QFN

RX200, Low power, low voltage Microcontroller
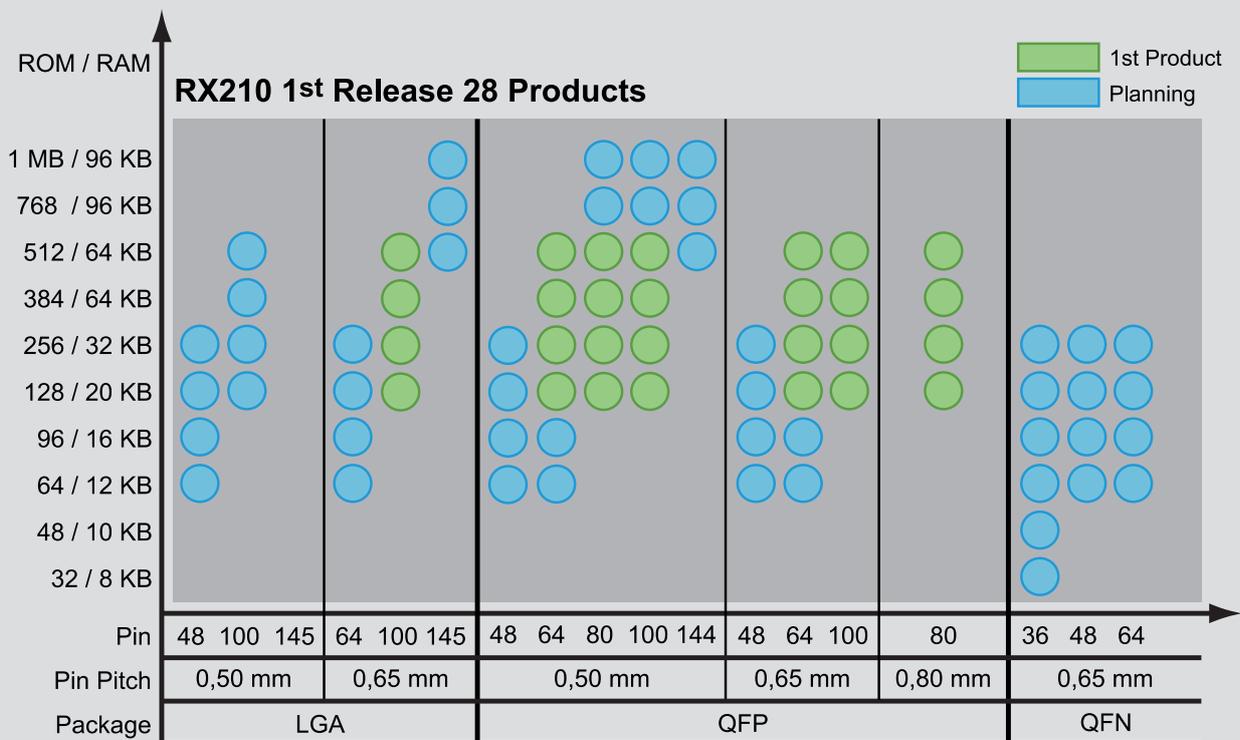
RX210 features

20 ns RX200 32-bit CPU Core

- 50 MHz, 2.7 V – 5.5 V
- 32 MHz, 1.8 V – 5.5 V
- 20 MHz, 1.62 V – 5.5 V
- 50 MHz High speed internal oscillator
- 125 kHz Low speed internal oscillator
- 32 kHz Sub-system oscillator
- PLL

On Chip Memory

- 128 – 512 kBytes on chip Flash
- 8 kBytes EE dataflash (100 k w/e)
- 16 – 64 kBytes on chip SRAM

Timers

- MTU2: 6 ch x 16-bit complex timer
- CMT: 4 channel 16-bit counter module
- TMR: 4 channel 8-bit timer module
- RTC: Real Time Clock calendar with calibration, tamper and alarm function
- Watchdog Timer with window & reset out

Serial I/O

- Up to 6 x SCI, (with simple SPI, simple I^{2}C)
- 1 x SCIX, (LIN, simple SPI, simple I^{2}C)
- Multi-master I^{2}C interface
- RSPI Interface with CS

Analogue I/O

- Up to 16 channel 1 µs 12-bit A/D converter
- 2 channel 10-bit DAC
- 4 channel comparator

Digital I/O

- Up to 84 I/O pins and 1 input only pin

POR & LVD

Other

- DMAC, Data Transfer Controller (DTC)
- Event Link Controller (ELC)
- CRC check circuit
- Data Operation Circuit (DOC)
- Multifunction Pin Controller (MPC)
- Temperature sensor

Interrupts

- NMI & 8 IRQ

Package options

- 64 – 100-pin QFP
- 100-pin LGA

RX210 block diagram
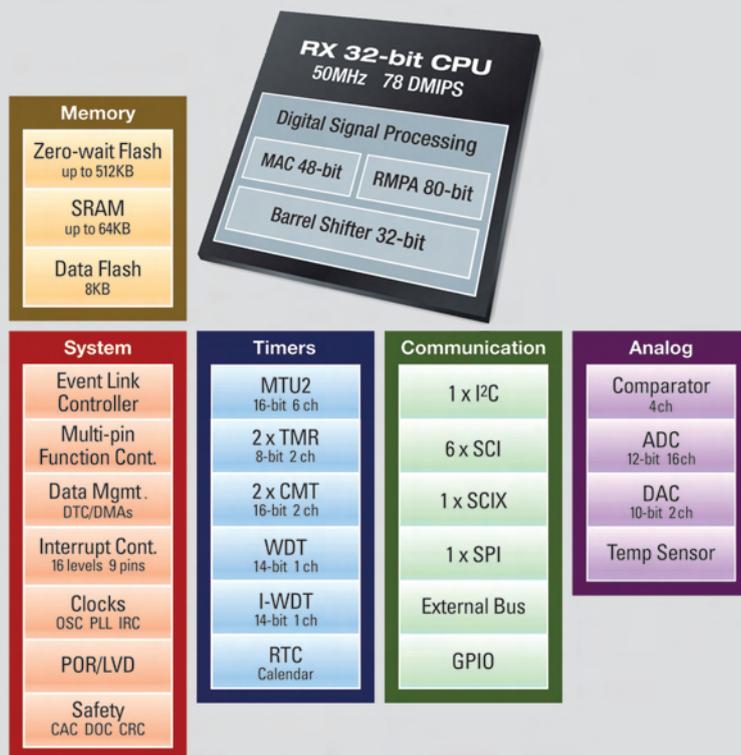
RX210 Starter Kit

Includes compiler, development board and the powerful E1 in-circuit debugger. Ordering code: **R0K505210S000BE**

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

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