April 16, 2013

Product Specifications of the RX111 Group of MCUs

Group name		RX111				
Model name *		R5F51115 ADxx	R5F51114 ADxx	R5F51113 ADxx	R5F51111 ADxx	R5F5111J ADxx
		R5F51115 AGxx	R5F51114 AGxx	R5F51113 AGxx	R5F51111 AGxx	R5F5111J AGxx
Memory	Flash ROM	128 KB	96 KB	64 KB	32 KB	16 KB
	RAM	16 KB		10 KB		8 KB
	E2 Data Flash	8 KB				
Power supply voltage		1.8 to 3.6 V				
Maximum operating frequency		32 MHz				
Operating temperature		-40 to +85C or -40 to +105C				
CPU core		RX CPU • General registers: 32-bit × 16 • Multiplier: 32-bit multiplier • Divider: Yes • Multiply-accumulator: Yes (two types: memory-to-memory operations and register-to-register operations)				
On-chip peripheral functions	Transfer functions	• Data transfer controller (DTCa)				
	Timers	• Multi-function timer pulse unit 2: 16 bits × 6 channels (MTU2a) • Port output enable 2 (POE2a) • Compare match timer (CMT): 16 bits × 2 channels × 1 unit • Realtime clock (RTCb): Except 36-pin				

	Communication functions	• Serial communications interface (SCIe): Over 48-pin: 3 channels; Under 36-pin: 1 channel • Serial communications interface (SCIf): 1 channel • I2C bus interface (RIIC): 1 channel • Serial peripheral interface (RSPI): 1channel • USB 2.0 full-speed: 64-pin [1 channel, H/F/OTG], Under 48-pin [1 channel, H/F]
	Analog functions	• 12-bit A/D converter (S12ADb): 64-pin: 14 channels; 48-pin: 10 channels; 36-pin: 7 channels • D/A converter (DA): 64-pin: 2 channels; Under 48-pin: None
	Safety functions	• Clock Frequency Accuracy Measurement Circuit (CAC) • Data Operation Circuit (DOC) • 14 bits independent watchdog timer (IWDTa) • CRC Calculator (CRC)
	Clock Generation Circuit	• Main clock oscillator • Sub-clock oscillator • Low-speed on-chip oscillator (LOCO) • High-speed on-chip oscillator (HOCO) • Dedicated on-chip oscillator for the IWDT
	Others	• Event Link Controller (ELC) • Multi-function Pin Controller (MPC) • Power-on Reset Circuit (POR) • Voltage Detection Circuit (LVD)
On-chip debugging function		Yes (with trace function)
Low power consumption modes		3 modes • Sleep mode • Deep sleep mode

	• Software standby mode
Packages	• PWLG0036KA-A (36-pin WFLGA, 4 × 4 mm, 0.5 mm pitch) • PLQP0048KB-A (48-pin LFQFP, 7 × 7 mm, 0.5 mm pitch) • PLQP0064KB-A (64-pin LFQFP, 10 × 10 mm, 0.5 mm pitch) • PLQP0064GA-A (64-pin LQFP, 14 × 14 mm, 0.8 mm pitch) • PWQN0040KC-A (40-pin HWQFN , 6 × 6 mm, 0.5 mm pitch) • PWQN0048KB-A (48-pin HWQFN, 7 × 7 mm, 0.5 mm pitch) • PWLG0064KA-A (64-pin WFLGA , 5 × 5 mm, 0.5 mm pitch)

*: xx depends on the package.
Upper: Ta = -40 to 85C, Lower: Ta = -40 to 105C