

September 29, 2014

## Product Specifications of the RX111 Group of MCUs

(Note 1) The xx differs depending on the package. Upper: Ta = -40 to +85C, Lower: Ta = -40 to +105C

Group name		RX111		
Part No.*		R5F51118ADxx	R5F51117ADxx	R5F51116ADxx
		R5F51118AGxx	R5F51117AGxx	R5F51116AGxx
Internal memory	Flash ROM	512 KB	384 KB	256 KB
	RAM	64 KB	64 KB	32 KB
	E2 data flash	8 KB		
Power supply voltage		1.8 to 3.6 V		
Maximum operating frequency		32 MHz		
Temperature range for operation		-40 to +85°C or -40 to +105°C		
CPU core		RX CPU <ul style="list-style-type: none"> <li>• General registers: 32-bit × 16</li> <li>• Multiplier: 32-bit multiplier</li> <li>• Divider: Yes</li> <li>• Multiply-accumulator: Yes (Two types: memory-to-memory operations and register-to-register operations)</li> </ul>		
On-chip peripheral	Transfer functions	<ul style="list-style-type: none"> <li>• Data transfer controller (DTCa)</li> </ul>		

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functions	Timers	<ul style="list-style-type: none"> <li>• Multi-function timer pulse unit 2: 16 bits x 6 channels (MTU2a)</li> <li>• Port output enable 2 (POE2a)</li> <li>• Compare match timer (CMT): 16 bits x 2 channels x 1 units</li> <li>• Real-time clock (RTCA)</li> </ul>
	Communication functions	<ul style="list-style-type: none"> <li>• Serial communications interface (SC1e): 2 channels</li> <li>• Serial communications interface (SC1f): 1 channel</li> <li>• I2C bus interface (RIIC): 1 channel</li> <li>• Serial peripheral interface (RSPI): 1 channel</li> <li>• USB 2.0 Full Speed (12 Mbps)/ Low Speed (1.5 Mbps): 64-pin [1 channel, Host/Function/OTG], 48-pin [1 channel, Host/Function]</li> </ul>
	Analog functions	<ul style="list-style-type: none"> <li>• 12-bit A/D converter (S12ADb): 64 pin [14 channels], 48-pin [10 channels]</li> <li>• D/A converter: 64 pin [2 channels], 48 pin [No support]</li> </ul>
	Safety functions	<ul style="list-style-type: none"> <li>• Clock Frequency Accuracy Measurement Circuit (CAC)</li> <li>• Data Operation Circuit (DOC)</li> <li>• 14 bits Independent watchdog timer (IWDTa)</li> <li>• CRC Calculator (CRC)</li> </ul>
	Clock Generation Circuit	<ul style="list-style-type: none"> <li>• Main clock oscillator</li> <li>• Sub-clock oscillator</li> <li>• Low-speed on-chip oscillator (LOCO)</li> <li>• High-speed on-chip oscillator (HOCO)</li> <li>• Dedicated on-chip oscillator for the IWDT</li> </ul>

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	<b>Others</b>	<ul style="list-style-type: none"> <li>• Event Link Controller (ELC)</li> <li>• Multi-function Pin Controller (MPC)</li> <li>• Temperature Sensor (TEMPSa)</li> <li>• Power-on Reset Circuit (POR)</li> <li>• Voltage Detection Circuit (LVD)</li> </ul>
<b>On-chip debugging function</b>	Yes (with trace function)	
<b>Low power consumption modes</b>	3 modes <ul style="list-style-type: none"> <li>• Sleep mode</li> <li>• Deep Sleep mode</li> <li>• Software standby mode</li> </ul>	
<b>Packages</b>	<ul style="list-style-type: none"> <li>• PLQP0048KB-A (48 pin LFQFP, 7 × 7 mm, 0.5 mm pitch)</li> <li>• PLQP0064KB-A (64 pin LFQFP, 10 × 10 mm, 0.5 mm pitch)</li> <li>• PLQP0064GA-A (64 pin LQFP, 14 × 14 mm, 0.8 mm pitch)</li> <li>• PWQN0048KB-A (48 pin HWQFN , 7 × 7 mm, 0.5 mm pitch)</li> <li>• PWLG0064KA-A (64 pin WFLGA , 5 × 5 mm, 0.5 mm pitch)</li> </ul>	

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