

**Separate Sheet**

**Product Specifications of the RX130 Group**

Group name		RX130			
Part No.*		R5F51305ADxx	R5F51303ADxx	R5F51305AGxx	R5F5130AGxx
Internal memory	Flash ROM	128 KB	64 KB	128 KB	64 KB
	RAM	16 KB	10 KB	16 KB	10 KB
	E2 data flash	8 KB			
Power supply voltage		1.8 - 5.5 V			
Maximum operating frequency		32 MHz			
Operating temperature		-40 - +85 °C		-40 - +105 °C	
CPU core		RX CPU <ul style="list-style-type: none"> <li>• General purpose: Sixteen 32-bit registers</li> <li>• Control : Eight 32-bit registers</li> <li>• Accumulator: 64-bit registers</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> <li>• Basic instructions: 73 Variable-length instruction format</li> <li>• DSP instructions: 23</li> </ul>			
On-chip peripheral functions		Transfer functions	<ul style="list-style-type: none"> <li>• Data transfer controller (DTCa)</li> </ul>		
		Timers	<ul style="list-style-type: none"> <li>• Multi-function timer pulse unit 2: 16 bits × 6 channels (MTU2a)</li> <li>• Port output enable 2 (POE2a)</li> <li>• Compare match timer (CMT): 16 bits × 2 channels × 1 units</li> <li>• Independent watchdog timer (IWDTa): 14 bit × 1 channel</li> <li>• Real-time clock (RTCc) : 1 channel</li> <li>• Low Power Timer (LPT) : 16 bit × 1 channel</li> <li>• 8-bit timer (TMR) : (8 bit × 2 channels) × 2 units</li> </ul>		
		Communication functions	<ul style="list-style-type: none"> <li>• Serial communications interface (SCIg) : 3 channels</li> <li>• Serial communications interface (SCIh) : 1 channels</li> <li>• I2C bus interface (RIICa) : 1 channels</li> <li>• Serial peripheral interface (RSPIa) : 1 channels</li> </ul>		
		Cap touch functions	<ul style="list-style-type: none"> <li>• 80-pin [36 channels], 64-pin [32 channels], 48-pin [24</li> </ul>		

		channels], Self-capacitance and mutual capacitance are supported.
	Analog functions	<ul style="list-style-type: none"> <li>• 12-bit A/D converter (S12ADE) : 80-pin [17 channels], 64-pin [14 channels], 48-pin [10 channels]</li> <li>• D/A converter (DAa): 80-pin [2 channels ], 64-pin [2 channels]、 48-pin [N/A]</li> <li>• Comparator B(CMPBa) : 2 channels</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-bit Independent watchdog timer (IWDTa)</li> <li>• Detection of 12-bit A/D converter analog input disconnection</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>• IWDT-dedicated on-chip oscillator</li> <li>• PLL frequency synthesizer</li> </ul>
	Others	<ul style="list-style-type: none"> <li>• Event Link Controller (ELC)</li> <li>• Multi-function Pin Controller (MPC)</li> <li>• Power-on Reset Circuit (POR)</li> <li>• Voltage Detection Circuit (LVDAb)</li> <li>• Temperature Sensor (TEMPSA)</li> <li>• Unique ID</li> </ul>
On-chip debugging function	Yes (with trace function)	
Low power consumption modes	3 modes <ul style="list-style-type: none"> <li>• Sleep mode</li> <li>• Deep sleep mode</li> <li>• Software standby mode</li> </ul>	
Packages	80-pin LFQFP(PLQP0080KB-B)12 × 12 mm, 0.5 mm pitch 64-pin LFQFP(PLQP0064KB-C)10 × 10 mm, 0.5 mm pitch 64-pin LQFP(PLQP0064GA-A)14 × 14 mm, 0.8mm pitch 48-pin LFQFP(PLQP0048KB-B)7 × 7 mm, 0.5 mm pitch 48-pin HWQFN(PWQN0048KB-A)7 × 7 mm, 0.5 mm pitch	

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