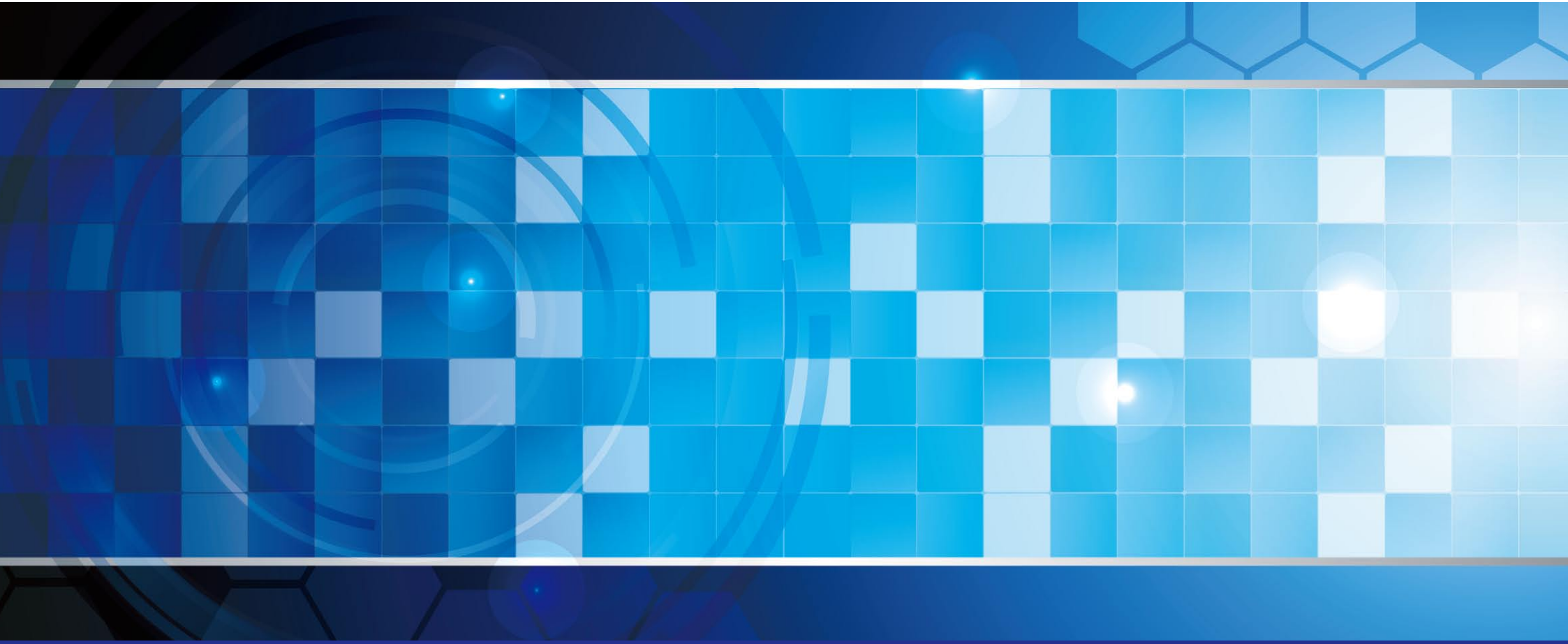
Renesas Microcomputer

R8C Family Selection Guide



Renesas Electronics
www.renesas.com

2011.11

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer								Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/32M	R5F21321MDSP	4K + 4K	512	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 21)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 4	Yes	–	3(TimerRA, TimerRB, TimerRE)	1(TimerRC)	4(shared with TimerRC)	5(shared with TimerRC, TimerRE)	4(shared with TimerRB, TimerRC)	1(shared with TimerRA)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2(UART0, UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	15	Comparator A x 2(shared with voltage monitor 1 and 2) + Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLSP0020JB-A
			R5F21321MNSP																																				-20 to 85	
			R5F21322MDSP	8K + 4K	1K																																		-40 to 85	
			R5F21322MNSP																																				-20 to 85	
			R5F21324MDSP	16K + 4K	1.5K																																		-40 to 85	
			R5F21324MNSP																																						
		R8C/3GM	R5F213G2MNNP*	8K + 4K	1K																10-bit x 8					4(shared with TimerRC)												19			PWQN0024KC-A
			R5F213G4MNNP*	16K + 4K	1.5K																																				
			R5F213G5MNNP*	24K + 4K	2K																																				
			R5F213G6MNNP*	32K + 4K	2.5K																																				
		R8C/33M	R5F21331MDFP	4K + 4K	512							DTC (Activation sources: 23)									10-bit x 12	Yes	8-bit x 2				5(shared with TimerRC, TimerRE)						3(UART0 to UART2)					27			PLQP0032GB-A
			R5F21331MNFP																																						
			R5F21332MDFP	8K + 4K	1K																																				
			R5F21332MNFP																																						
			R5F21334MDFP	16K + 4K	1.5K																																				
			R5F21334MNFP																																						
			R5F21335MDFP	24K + 4K	2K																																				
			R5F21335MNFP																																						
			R5F21336MDFP	32K + 4K	2.5K																																				
			R5F21336MNFP																																						

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/3JM	R5F213J2MNNP*	8K + 4K	1K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 32)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 10	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	3(TimerRC, TimerRD)	12(shared with TimerRC, TimerRD)	13(shared with TimerRC, TimerRD, TimerRE)	10(shared with TimerRB, TimerRC, TimerRD)	1(shared with TimerRA)	–	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	31	Comparator A x 2(shared with voltage monitor 1 and 2) + Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-20 to 85	PWQN0036KA-B
			R5F213J4MNNP*	16K + 4K	1.5K																																				
			R5F213J5MNNP*	24K + 4K	2K																																				
			R5F213J6MNNP*	32K + 4K	2.5K																																				
		R8C/34M	R5F21344MDFP	16K + 4K	1.5K							DTC (Activation sources: 33)																														-40 to 85	PLQP0048KB-A
			R5F21344MNFP																																						-20 to 85	
			R5F21345MDFP	24K + 4K	2K																																				-40 to 85	
			R5F21345MNFP																																						-20 to 85	
			R5F21346MDFP	32K + 4K	2.5K																																				-40 to 85	
			R5F21346MNFP																																						-20 to 85	
		R8C/35M	R5F21354MDFP	16K + 4K	1.5K																10-bit x 12																	47		-40 to 85	PLQP0052JA-A
			R5F21354MNFP																																						-20 to 85	
			R5F21355MDFP	24K + 4K	2K																																				-40 to 85	
			R5F21355MNFP																																						-20 to 85	
			R5F21356MDFP	32K + 4K	2.5K																																				-40 to 85	
			R5F21356MNFP																																						-20 to 85	
			R5F21357MDFP*	48K + 4K	4K																																				-40 to 85	
			R5F21357MNFP*																																						-20 to 85	
			R5F21358MDFP*	64K + 4K	6K																																				-40 to 85	
			R5F21358MNFP*																																						-20 to 85	
			R5F2135AMDFP*	96K + 4K	8K																																				-40 to 85	
			R5F2135AMNFP*																																						-20 to 85	
			R5F2135CMDFP*	128K + 4K	10K																																				-40 to 85	
			R5F2135CMNFP*																																						-20 to 85	

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R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer								Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/36M	R5F21364MDFA*	16K + 4K	1.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 39)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	5(TimerRC, TimerRD, TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	1(shared with TimerRA)	1(shared with TimerRG)	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	59	Comparator A x 2(shared with voltage monitor 1 and 2) + Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0064GA-A
			R5F21364MDFP*																																						PLQP0064KB-A
			R5F21364MNFA*																																					-20 to 85	PLQP0064GA-A
			R5F21364MNFP*																																						PLQP0064KB-A
			R5F21365MDFA*	24K + 4K	2K																																			-40 to 85	PLQP0064GA-A
			R5F21365MDFP*																																						PLQP0064KB-A
			R5F21365MNFA*																																					-20 to 85	PLQP0064GA-A
			R5F21365MNFP*																																						PLQP0064KB-A
			R5F21366MDFA*	32K + 4K	2.5K																																			-40 to 85	PLQP0064GA-A
			R5F21366MDFP*																																						PLQP0064KB-A
			R5F21366MNFA*																																					-20 to 85	PLQP0064GA-A
			R5F21366MNFP*																																						PLQP0064KB-A
			R5F21367MDFA*	48K + 4K	4K																																			-40 to 85	PLQP0064GA-A
			R5F21367MDFP*																																						PLQP0064KB-A
			R5F21367MNFA*																																					-20 to 85	PLQP0064GA-A
			R5F21367MNFP*																																						PLQP0064KB-A
			R5F21368MDFA*	64K + 4K	6K																																			-40 to 85	PLQP0064GA-A
			R5F21368MDFP*																																						PLQP0064KB-A
			R5F21368MNFA*																																					-20 to 85	PLQP0064GA-A
			R5F21368MNFP*																																						PLQP0064KB-A
			R5F2136AMDFA*	96K + 4K	8K																																				-40 to 85	PLQP0064GA-A
			R5F2136AMDFP*																																						PLQP0064KB-A
			R5F2136AMNFA*																																					-20 to 85	PLQP0064GA-A
			R5F2136AMNFP*																																						PLQP0064KB-A
			R5F2136CMDFA*	128K + 4K	10K																																				-40 to 85	PLQP0064GA-A
			R5F2136CMDFP*																																						PLQP0064KB-A
			R5F2136CMNFA*																																						PLQP0064GA-A
			R5F2136CMNFP*																																					-20 to 85	PLQP0064KB-A

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R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/38M	R5F21386MDFP*	32K + 4K	2.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 39)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 20	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	5(TimerRC, TimerRD, TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	1(shared with TimerRA)	1(shared with TimerRG)	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	75	Comparator A x 2(shared with voltage monitor 1 and 2) + Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0080KB-A
			R5F21386MNFP*																																						-20 to 85	
			R5F21387MDFP*	48K + 4K	4K																																				-40 to 85	
			R5F21387MNFP*																																						-20 to 85	
			R5F21388MDFP*	64K + 4K	6K																																				-40 to 85	
			R5F21388MNFP*																																						-20 to 85	
			R5F2138AMDFP*	96K + 4K	8K																																				-40 to 85	
			R5F2138AMNFP*																																						-20 to 85	
			R5F2138CMDFP*	128K + 4K	10K																																				-40 to 85	
			R5F2138CMNFP*																																						-20 to 85	
		R8C/32C	R5F21321CDSP	4K + 4K	512							DTC (Activation sources: 21)									10-bit x 4		–		1(TimerRC)	4(shared with TimerRC)	5(shared with TimerRC, TimerRE)	4(shared with TimerRB, TimerRC)			–	–						15	Comparator B x 2			-40 to 85	PLSP0020JB-A
			R5F21321CNSP																																						-20 to 85	
			R5F21322CDSP	8K + 4K	1K																																				-40 to 85	
			R5F21322CNSP																																						-20 to 85	
			R5F21324CDSP	16K + 4K	1.5K																																				-40 to 85	
			R5F21324CNSP																																						-20 to 85	
		R8C/3GC	R5F213G1CDSP	4K + 4K	512							DTC (Activation sources: 23)									10-bit x 8		8-bit x 2				4(shared with TimerRC)											19			-40 to 85	PLSP0024JB-A
			R5F213G1CNSP																																						-20 to 85	
			R5F213G2CDSP	8K + 4K	1K																																				-40 to 85	
			R5F213G2CNNP																																						-20 to 85	PWQN0024KC-A
			R5F213G2CNSP																																							PLSP0024JB-A
			R5F213G4CDSP	16K + 4K	1.5K																																			-40 to 85	
			R5F213G4CNNP																																						-20 to 85	PWQN0024KC-A
			R5F213G4CNSP																																							PLSP0024JB-A
			R5F213G5CDSP	24K + 4K	2K																																			-40 to 85	
			R5F213G5CNNP																																						-20 to 85	PWQN0024KC-A
			R5F213G5CNSP																																							PLSP0024JB-A
			R5F213G6CDSP	32K + 4K	2.5K																																			-40 to 85	
			R5F213G6CNNP																																						-20 to 85	PWQN0024KC-A
			R5F213G6CNSP																																							PLSP0024JB-A

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R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/33C	R5F21331CDFP	4K + 4K	512	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 23)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	1(TimerRC)	4(shared with TimerRC)	5(shared with TimerRC, TimerRE)	4(shared with TimerRB, TimerRC)	1(shared with TimerRA)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	27	Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/1.8 to 5.5V	-40 to 85	PLQP0032GB-A
			R5F21331CNFP																																					-20 to 85	
			R5F21332CDFP	8K + 4K	1K																																			-40 to 85	
			R5F21332CNFP																																					-20 to 85	
			R5F21334CDFP	16K + 4K	1.5K																																			-40 to 85	
			R5F21334CNFP																																					-20 to 85	
			R5F21335CDFP	24K + 4K	2K																																			-40 to 85	
			R5F21335CNFP																																					-20 to 85	
			R5F21336CDFP	32K + 4K	2.5K																																			-40 to 85	
			R5F21336CNFP																																							
		R8C/3JC	R5F213J2CNNP	8K + 4K	1K							DTC (Activation sources: 32)									10-bit x 10																	31		-20 to 85	PWQN0036KA-B
			R5F213J4CNNP	16K + 4K	1.5K																																					
			R5F213J5CNNP	24K + 4K	2K																																					
			R5F213J6CNNP	32K + 4K	2.5K																																					
		R8C/34C	R5F21344CDFP	16K + 4K	1.5K							DTC (Activation sources: 33)									10-bit x 12																	43		-40 to 85	PLQP0048KB-A
			R5F21344CNFP																																					-20 to 85	
			R5F21345CDFP	24K + 4K	2K																																			-40 to 85	
			R5F21345CNFP																																					-20 to 85	
			R5F21346CDFP	32K + 4K	2.5K																																			-40 to 85	
			R5F21346CNFP																																					-20 to 85	
		R8C/35C	R5F21354CDFP	16K + 4K	1.5K																																			-40 to 85	
			R5F21354CNFP																																					-20 to 85	
			R5F21355CDFP	24K + 4K	2K																																			-40 to 85	
			R5F21355CNFP																																					-20 to 85	
			R5F21356CDFP	32K + 4K	2.5K																																			-40 to 85	
			R5F21356CNFP																																					-20 to 85	
			R5F21357CDFP	48K + 4K	4K																																			-40 to 85	
			R5F21357CNFP																																					-20 to 85	
			R5F21358CDFP	64K + 4K	6K																																			-40 to 85	
			R5F21358CNFP																																					-20 to 85	
			R5F2135ACDFP	96K + 4K	8K																																			-40 to 85	
			R5F2135ACNFP																																					-20 to 85	
			R5F2135CCDFP	128K + 4K	10K																																			-40 to 85	
			R5F2135CCNFP																																					-20 to 85	

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R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer								Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage		
General-purpose	R8C/3x	R8C/36C	R5F21364CDFA	16K + 4K	1.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 39)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	5(TimerRC, TimerRD, TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	1(shared with TimerRA)	1(shared with TimerRG)	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	59	Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0064GA-A
			R5F21364CDFB																																						PTQP0064LB-A
			R5F21364CDFP																																							PLQP0064KB-A
			R5F21364CNFA																																						-20 to 85	PLQP0064GA-A
			R5F21364CNFB																																							PTQP0064LB-A
			R5F21364CNFP																																							PLQP0064KB-A
			R5F21365CDFA	24K + 4K	2K																																				-40 to 85	PLQP0064GA-A
			R5F21365CDFB																																							PTQP0064LB-A
			R5F21365CDFP																																							PLQP0064KB-A
			R5F21365CNFA																																						-20 to 85	PLQP0064GA-A
			R5F21365CNFB																																							PTQP0064LB-A
			R5F21365CNFP																																							PLQP0064KB-A
			R5F21366CDFA	32K + 4K	2.5K																																				-40 to 85	PLQP0064GA-A
			R5F21366CDFB																																							PTQP0064LB-A
			R5F21366CDFP																																							PLQP0064KB-A
			R5F21366CNFA																																						-20 to 85	PLQP0064GA-A
			R5F21366CNFB																																							PTQP0064LB-A
			R5F21366CNFP																																							PLQP0064KB-A
			R5F21367CDFA	48K + 4K	4K																																				-40 to 85	PLQP0064GA-A
			R5F21367CDFB																																							PTQP0064LB-A
			R5F21367CDFP																																							PLQP0064KB-A
			R5F21367CNFA																																						-20 to 85	PLQP0064GA-A
			R5F21367CNFB																																							PTQP0064LB-A
			R5F21367CNFP																																							PLQP0064KB-A
			R5F21368CDFA	64K + 4K	6K																																				-40 to 85	PLQP0064GA-A
			R5F21368CDFB																																							PTQP0064LB-A
			R5F21368CDFP																																							PLQP0064KB-A
			R5F21368CNFA																																						-20 to 85	PLQP0064GA-A
			R5F21368CNFB																																							PTQP0064LB-A
			R5F21368CNFP																																							PLQP0064KB-A
			R5F2136ACDFA	96K + 4K	8K																																				-40 to 85	PLQP0064GA-A
			R5F2136ACDFB																																							PTQP0064LB-A
			R5F2136ACDFP																																							PLQP0064KB-A
			R5F2136ACNFA																																						-20 to 85	PLQP0064GA-A
			R5F2136ACNFB																																							PTQP0064LB-A
			R5F2136ACNFP																																							PLQP0064KB-A
			R5F2136CCDFA	128K + 4K	10K																																				-40 to 85	PLQP0064GA-A
			R5F2136CCDFB																																							PTQP0064LB-A
			R5F2136CCDFP																																							PLQP0064KB-A
			R5F2136CCNFA																																							-20 to 85	PLQP0064GA-A
			R5F2136CCNFB																																							PTQP0064LB-A
			R5F2136CCNFP																																							PLQP0064KB-A

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/38C	R5F21386CDFP	32K + 4K	2.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 39)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 20	Yes	8-bit x 2	3 (TimerRA, TimerRB, TimerRE)	5(TimerRC, TimerRD ,TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	1 (shared with TimerRA)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I2C)	75	Comparator 8 x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0080KB-A
			R5F21386CNFP																																						-20 to 85	
			R5F21387CDFP	48K + 4K	4K																																				-40 to 85	
			R5F21387CNFP																																						-20 to 85	
			R5F21388CDFP	64K + 4K	6K																																				-40 to 85	
			R5F21388CNFP																																						-20 to 85	
			R5F2138ACDFP	96K + 4K	8K																																				-40 to 85	
			R5F2138ACNFP																																						-20 to 85	
			R5F2138CCDFP	128K + 4K	10K																																				-40 to 85	
			R5F2138CCNFP																																						-20 to 85	
		R8C/32D	R5F21321DDSP	4K	1K		–					–									10-bit x 4																	15			-40 to 85	PLSP0020JB-A
			R5F21321DNSP																																						-20 to 85	
			R5F21322DDSP	8K																																				-40 to 85	
			R5F21322DNSP																																						-20 to 85	
			R5F21324DDSP	16K																																				-40 to 85	
			R5F21324DNSP																																						-20 to 85	
		R8C/3GD	R5F213G1DDSP	4K	1K																10-bit x 8				1 (TimerRC)	4 (shared with TimerRC)	4 (shared with TimerRC)	4 (shared with TimerRB, TimerRC)	1 (shared with TimerRA)	–	–		2 (UART0, UART2)	–	–	1(UART2 (Simple I²C))	–	19			-40 to 85	PLSP0024JB-A
			R5F213G1DNSP																																						-20 to 85	
			R5F213G2DDSP	8K																																				-40 to 85	
			R5F213G2DNSP																																						-20 to 85	
			R5F213G4DDSP	16K																																				-40 to 85	
			R5F213G4DNSP																																						-20 to 85	
			R5F213G5DDSP	24K																																				-40 to 85	
			R5F213G5DNSP																																						-20 to 85	
			R5F213G6DDSP	32K																																				-40 to 85	
			R5F213G6DNSP																																						-20 to 85	
		R8C/33D	R5F21331DDFP	4K	1K																10-bit x 12					5 (shared with TimerRC, TimerRE)											27			-40 to 85	PLQP0032GB-A
			R5F21331DNFP																																						-20 to 85	
			R5F21332DDFP	8K																																				-40 to 85	
			R5F21332DNFP																																						-20 to 85	
			R5F21334DDFP	16K																																				-40 to 85	
			R5F21334DNFP																																						-20 to 85	
			R5F21335DDFP	24K																																				-40 to 85	
			R5F21335DNFP																																						-20 to 85	
			R5F21336DDFP	32K																																				-40 to 85	
			R5F21336DNFP																																						-20 to 85	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer								Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/35D	R5F21354DDFP	16K	1K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	–	3(TimerRA, TimerRB, TimerRE)	1(TimerRC)	4(shared with TimerRC)	5(shared with TimerRC, TimerRE)	4(shared with TimerRB, TimerRC)	1(shared with TimerRA)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2(UART0, UART2)	–	–	1(UART2 (Simple I²C))	–	47	Comparator B x 2	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0052JA-A
			R5F21354DNFP																																				-20 to 85	
			R5F21355DDFP	24K																																			-40 to 85	
			R5F21355DNFP																																				-20 to 85	
			R5F21356DDFP	32K																																			-40 to 85	
			R5F21356DNFP																																				-20 to 85	
		R8C/33T	R5F21334TDFP	16K + 4K	1.5K (0.5 KB is occupied when using the sensor control unit.)							DTC (Activation sources: 22)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–								2(TimerRA, TimerRB)			5(shared with TimerRC)						2(UART0, UART1, UART2)				1(UART2 (Simple I²C))	–	27	Sensor Control Unit(Electrostatic capacitive touch detection CH x 18)		-40 to 85	PLQP0032GB-A
			R5F21334TNFP																																				-20 to 85	
			R5F21335TDFP	24K + 4K	2K (0.5 KB is occupied when using the sensor control unit.)																																		-40 to 85	
			R5F21335TNFP																																				-20 to 85	
			R5F21336TDFP	32K + 4K	2.5K (0.5 KB is occupied when using the sensor control unit.)																																		-40 to 85	
			R5F21336TNFP																																						
		R8C/3JT	R5F213J4TNNP	16K + 4K	1.5K (0.5 KB is occupied when using the sensor control unit.)																																				PXQN0040LA-A
			R5F213J5TNNP	24K + 4K	2K (0.5 KB is occupied when using the sensor control unit.)																																				
			R5F213J6TNNP	32K + 4K	2.5K (0.5 KB is occupied when using the sensor control unit.)																																				
		R8C/3NT	R5F213N7TNBX	48K + 4K	4K (0.5 KB is occupied when using the sensor control unit.)							DTC (Activation sources: 32)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)								3(TimerRA, TimerRB, TimerRE)									3(UART0, UART1, UART2)				4(shared with SSU)	4(shared with I²C)	43	Sensor Control Unit(Electrostatic capacitive touch detection CH x 5)			SWBG0048LA-A
			R5F213N8TNBX	64K + 4K	6K (0.5 KB is occupied when using the sensor control unit.)																																				
			R5F213NATNBX	96K + 4K	8K (0.5 KB is occupied when using the sensor control unit.)																																				
			R5F213NCTNBX	128K + 4K	10K (0.5 KB is occupied when using the sensor control unit.)																																				
		R8C/36T-A	R5F21368SDFA**	64K + 4K	6K							DTC (Activation sources: 27)			Yes (TimerRE2)								1(TimerRE2)	3(TimerRJ, TimerRB2, TimerRC)	4(TimerRC)	5(TimerRC, TimerRE2)	5 (TimerRB2, TimerRC)	1(TimerRJ)				3 (UART0 to UART2)				1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	59	Comparator B x 2, Touch sensor control unit(electrostatic capacitive touch detection CH x 28), Event link controller		-40 to 85	PLQP0064GA-A
			R5F21368SDFP**																																					PLQP0064KB-A
			R5F21368SNFA**																																				-20 to 85	PLQP0064GA-A
			R5F21368SNFP**																																					PLQP0064KB-A
			R5F2136ASDFA**	96K + 4K	8K																																		-40 to 85	PLQP0064GA-A
			R5F2136ASDFP**																																					PLQP0064KB-A
			R5F2136ASNFA**																																				-20 to 85	PLQP0064GA-A
			R5F2136ASNFP**																																					PLQP0064KB-A
			R5F2136CSDFA**	128K + 4K	10K																																		-40 to 85	PLQP0064GA-A
			R5F2136CSDFP**																																					PLQP0064KB-A
			R5F2136CSNFA**																																				-20 to 85	PLQP0064GA-A
			R5F2136CSNFP**																																					PLQP0064KB-A

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/3x	R8C/38T-A	R5F21388SDFP**	64K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 27)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE2)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 20	Yes	–	1(TimerRE2)	3(TimerRJ, TimerRB2, TimerRC)	4(TimerRC)	5(TimerRC, TimerRE2)	5 (TimerRB2, TimerRC)	1(TimerRJ)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	75	Comparator B x 2, Touch sensor control unit(electrostatic capacitive touch detection CH x 36), Event link controller	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0080KB-A
			R5F21388SNFP**																																					-20 to 85	
			R5F2138ASDFP**	96K + 4K	8K																																			-40 to 85	
			R5F2138ASNFP**																																					-20 to 85	
			R5F2138CSDFP**	128K + 4K	10K																																			-40 to 85	
			R5F2138CSNFP**																																						
		R8C/3MU	R5F213M6UNNP	32K + 4K	4K							DTC (Activation sources: 25)	4 circuits (Main clock, sub-clock, High-speed on-chip oscillator, Low-speed on-chip oscillator, PLL)	–	–						–	–	2(TimerRA, TimerRB)	1(TimerRC)	4(shared with TimerRC)	4(shared with TimerRC)	4(shared with TimerRB, TimerRC)	1(shared with TimerRA)	–	–		4(UART0 to UART3)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	30	Comparator B x 2 USB 2.0 Full-Speed	20MHz/ 2.7 to 5.5V (when not using USB), 5MHz/ 1.8 to 5.5V (when not using USB)	-20 to 85	PWQN0040KB-B
			R5F213M8UNNP	64K + 4K	8K																																				
		R8C/34U	R5F21346UDFP	32K + 4K	4K							DTC (Activation sources: 30)									10-bit x 12	Yes		2(TimerRC, TimerRF)	5(shared with TimerRC, TimerRF)	5(shared with TimerRC, TimerRF)														-40 to 85	PLQP0048KB-A
			R5F21346UNFP																																					-20 to 85	
			R5F21348UDFP	64K + 4K	8K																																			-40 to 85	
			R5F21348UNFP																																						
		R8C/3MK	R5F213M8KNNP	64K + 4K	8K							DTC (Activation sources: 26)									10-bit x 10	Yes		1(TimerRC)	4(shared with TimerRC)	4(shared with TimerRC)														-20 to 85	PWQN0040KB-B
			R5F213M8KNNP	128K + 4K	10K																																				
		R8C/34K	R5F21348KDFP	64K + 4K	8K							DTC (Activation sources: 30)									10-bit x 12			2(TimerRC, TimerRF)	5(shared with TimerRC, TimerRF)	5(shared with TimerRC, TimerRF)														-40 to 85	PLQP0048KB-A
			R5F21348KNFP																																					-20 to 85	
			R5F2134CKDFP	128K + 4K	10K																																			-40 to 85	
			R5F2134CKNFP																																						
		R8C/3MQ	R5F213M6QNNP*	32K + 4K	2.5K						62.5 (@16MHz)	DTC (Activation sources: 17)	3 circuits (Main clock, Sub clock, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	1circuit(Low speed : 125kHz)				Yes(Voltage detection 2)	–	–	3(TimerRA, TimerRB, TimerRE)	1(TimerRC)	4(shared with TimerRC)	5(shared with TimerRC, TimerRE)								1(UART0)			1(shared with SSU)		18	2.4 GHz band RF transceiver circuit compliant to IEEE802.15.4 standard	16MHz/ 2.7 to 3.6V, 4MHz/1.8 to 3.6V	-20 to 85	PWQN0040KB-A
			R5F213M7QNNP*	48K + 4K	4K																																				
			R5F213M8QNNP*	64K + 4K	6K																																				
			R5F213MAQNNP*	96K + 4K	7K																																				
			R5F213MCQNNP*	128K + 4K	7.5K																																				

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*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Mx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/Mx	R8C/M11A	R5F2M110ADSP	2K + 2K	256	F	2K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 20MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 2)	10-bit x 5	Yes	–	1(TimerRB2)	3(TimerRJ2, TimerRB2, TimerRC)	4(shared with TimerRC)	4(shared with TimerRC)	4(shared with TimerRB2, TimerRC)	1(shared with TimerRJ2)	–	–	1(with automatic start function, clock source protection function, periodic timer function)	1(UART0)	–	–	–	–	11	Comparator B x 1	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PTSP0014JA-B
			R5F2M110ANDD																								4(shared with TimerRC)														-20 to 85	PRDP0014AC-A
			R5F2M110ANSP																																							PTSP0014JA-B
			R5F2M111ADSP	4K + 2K	384																																				-40 to 85	
			R5F2M111ANDD																																							-20 to 85	PRDP0014AC-A
			R5F2M111ANSP																																								PTSP0014JA-B
			R5F2M112ADSP	8K + 2K	512																																				-40 to 85	
			R5F2M112ANDD																																							-20 to 85	PRDP0014AC-A
			R5F2M112ANSP																																								PTSP0014JA-B
		R8C/M12A	R5F2M120ADSP	2K + 2K	256																																				-40 to 85	PLSP0020JB-A
			R5F2M120ANDD																																							-20 to 85	PRDP0020AD-A
			R5F2M120ANSP																																								PLSP0020JB-A
			R5F2M121ADSP	4K + 2K	384																10-bit x 6																				-40 to 85	
			R5F2M121ANDD																																							-20 to 85	PRDP0020AD-A
			R5F2M121ANSP																																								PLSP0020JB-A
			R5F2M122ADSP	8K + 2K	512																																				-40 to 85	
			R5F2M122ANDD																																							-20 to 85	PRDP0020AD-A
			R5F2M122ANSP																																								PLSP0020JB-A
		R8C/M13B	R5F2M131BDFP	4K + 2K	384								4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE2)						10-bit x 8		3(TimerRB2, TimerRK, TimerRE2)									2(UART0, UART1)			1((shared with SSU)	1(shared with I²C)	29	Comparator Bx 2, IrDA		-40 to 85	PLQP0032GB-A
			R5F2M131BNFP																																							-20 to 85	
			R5F2M132BDFP	8K + 2K	512																																				-40 to 85	
			R5F2M132BNFP																																							-20 to 85	
			R5F2M134BDFP	16K + 2K	1K																																				-40 to 85	
			R5F2M134BNFP																																						-20 to 85	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	SSU/ Special Serial I/O	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
LCD	R8C/Lx	R8C/L35M	R5F2L357MDFP*	48K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 38)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	4(TimerRC, TimerRD, TimerRG)	14(shared with TimerRC, TimerRD, TimerRG)	15(shared with TimerRC, TimerRD, TimerRE, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	2(shared with TimerRA, TimerRG)	1(shared with TimerRG)	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	41	Comparator A x 2, Comparator B x 2,24seg x 4com	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0052JA-A
			R5F2L357MNFP*																																					-20 to 85	
			R5F2L358MDFP*	64K + 4K	8K																																			-40 to 85	
			R5F2L358MNFP*																																					-20 to 85	
			R5F2L35AMDFP*	96K + 4K	10K																																			-40 to 85	
			R5F2L35AMNFP*																																					-20 to 85	
			R5F2L35CMDFP*	128K + 4K																																				-40 to 85	
			R5F2L35CMNFP*																																					-20 to 85	
		R8C/L36M	R5F2L367MDFA*	48K + 4K	6K																																	41			-40 to 85	PLQP0064GA-A
			R5F2L367MDFP*																																						-40 to 85	PLQP0064KB-A
			R5F2L367MNFA*																																						-20 to 85	PLQP0064GA-A
			R5F2L367MNFP*																																						-20 to 85	PLQP0064KB-A
			R5F2L368MDFA*	64K + 4K	8K																																				-40 to 85	PLQP0064GA-A
			R5F2L368MDFP*																																						-40 to 85	PLQP0064KB-A
			R5F2L368MNFA*																																						-20 to 85	PLQP0064GA-A
			R5F2L368MNFP*																																						-20 to 85	PLQP0064KB-A
			R5F2L36AMDFA*	96K + 4K	10K																																	52	Comparator A x 2, Comparator B x 2,32seg x 8com		-40 to 85	PLQP0064GA-A
			R5F2L36AMDFP*																																						-40 to 85	PLQP0064KB-A
			R5F2L36AMNFA*																																						-20 to 85	PLQP0064GA-A
			R5F2L36AMNFP*																																						-20 to 85	PLQP0064KB-A
			R5F2L36CMDFA*	128K + 4K																																				-40 to 85	PLQP0064GA-A
			R5F2L36CMDFP*																																						-40 to 85	PLQP0064KB-A
			R5F2L36CMNFA*																																						-20 to 85	PLQP0064GA-A
			R5F2L36CMNFP*																																						-20 to 85	PLQP0064KB-A

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
LCD	R8C/Lx	R8C/L38M	R5F2L387MDFA*	48K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 38)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 16	Yes	8-bit x 2	3(TimerRA, TimerRB, TimerRE)	4(TimerRC, TimerRD, TimerRG)	14(shared with TimerRC, TimerRD, TimerRG)	15(shared with TimerRC, TimerRD, TimerRE, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	2(shared with TimerRA, TimerRG)	1(shared with TimerRG)	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	68	Comparator A x 2, Comparator B x 2,48seg x 8com	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0080JA-A
			R5F2L387MDFP*																																						-20 to 85	PLQP0080KB-A
			R5F2L387MNFA*																																							PLQP0080JA-A
			R5F2L387MNFP*																																							PLQP0080KB-A
			R5F2L388MDFA*	64K + 4K	8K																																					PLQP0080JA-A
			R5F2L388MDFP*																																							PLQP0080KB-A
			R5F2L388MNFA*																																							PLQP0080JA-A
			R5F2L388MNFP*																																							PLQP0080KB-A
			R5F2L38AMDFA*	96K + 4K	10K																																					PLQP0080JA-A
			R5F2L38AMDFP*																																							PLQP0080KB-A
			R5F2L38AMNFA*																																							PLQP0080JA-A
			R5F2L38AMNFP*																																							PLQP0080KB-A
			R5F2L38CMDFA*	128K + 4K																																						PLQP0080JA-A
			R5F2L38CMDFP*																																							PLQP0080KB-A
			R5F2L38CMNFA*																																							PLQP0080JA-A
			R5F2L38CMNFP*																																							PLQP0080KB-A
		R8C/L3AM	R5F2L3A7MDFA**	48K + 4K	6K																																					PRQP0100JD-B
			R5F2L3A7MDFP*																																							PLQP0100KB-A
			R5F2L3A7MNFA**																																							PRQP0100JD-B
			R5F2L3A7MNFP*																																							PLQP0100KB-A
			R5F2L3A8MDFA**	64K + 4K	8K																																					PRQP0100JD-B
			R5F2L3A8MDFP*																																							PLQP0100KB-A
			R5F2L3A8MNFA**																																							PRQP0100JD-B
			R5F2L3A8MNFP*																																							PLQP0100KB-A
			R5F2L3AAMDFA**	96K + 4K	10K																10-bit x 20																				PRQP0100JD-B
			R5F2L3AAMDFP*																																							PLQP0100KB-A
			R5F2L3AAMNFA**																																							PRQP0100JD-B
			R5F2L3AAMNFP*																																							PLQP0100KB-A
			R5F2L3ACMDFA**	128K + 4K																																						PRQP0100JD-B
			R5F2L3ACMDFP*																																							PLQP0100KB-A
			R5F2L3ACMNFA**																																							PRQP0100JD-B
			R5F2L3ACMNFP*																																							PLQP0100KB-A
																																						88	Comparator A x 2, Comparator B x 2,56seg x 8com			

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
LCD	R8C/Lx	R8C/L35C	R5F2L357CDFP	48K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 @20MHz	DTC (Activation sources: 38)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 10	Yes	8-bit x 2	3 (TimerRA, TimerRB, TimerRE)	4 (TimerRC, TimerRD, TimerRG)	14 (shared with TimerRC, TimerRD, TimerRG)	15 (shared with TimerRC, TimerRD, TimerRE, TimerRG)	11 (shared with TimerRB, TimerRC, TimerRD, TimerRG)	2 (shared with TimerRA, TimerRG)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	41	Comparator B x 2 24seg x 4com	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0052JA-A
			R5F2L357CNFP																																				-20 to 85	
			R5F2L358CDFP	64K + 4K	8K																																		-40 to 85	
			R5F2L358CNFP																																				-20 to 85	
			R5F2L35ACDFP	96K + 4K	10K																																		-40 to 85	
			R5F2L35ACNFP																																				-20 to 85	
			R5F2L35CCDFP	128K + 4K																																			-40 to 85	
			R5F2L35CCNFP																																				-20 to 85	
		R8C/L36C	R5F2L367CDFA	48K + 4K	6K																																	52	Comparator B x 2 32seg x 8com		-40 to 85	PLQP0064GA-A
			R5F2L367CDFP																																						PLQP0064KB-A
			R5F2L367CNFA																																				-20 to 85	PLQP0064GA-A
			R5F2L367CNFP																																						PLQP0064KB-A
			R5F2L368CDFA	64K + 4K	8K																																		-40 to 85	PLQP0064GA-A
			R5F2L368CDFP																																						PLQP0064KB-A
			R5F2L368CNFA																																				-20 to 85	PLQP0064GA-A
			R5F2L368CNFP																																						PLQP0064KB-A
			R5F2L36ACDFA	96K + 4K	10K																																		-40 to 85	PLQP0064GA-A
			R5F2L36ACDFP																																						PLQP0064KB-A
			R5F2L36ACNFA																																				-20 to 85	PLQP0064GA-A
			R5F2L36ACNFP																																						PLQP0064KB-A
			R5F2L36CCDFA	128K + 4K																																			-40 to 85	PLQP0064GA-A
			R5F2L36CCDFP																																						PLQP0064KB-A
			R5F2L36CCNFA																																				-20 to 85	PLQP0064GA-A
			R5F2L36CCNFP																																						PLQP0064KB-A

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R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	SSU/ Special Serial I/O	CMOS I/O (Numbers)	Others			
LCD	R8C/Lx	R8C/L38C	R5F2L387CDFA	48K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 38)	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 16	Yes	8-bit x 2	3 (TimerRA, TimerRB, TimerRE)	4 (TimerRC, TimerRD, TimerRG)	14 (shared with TimerRC, TimerRD, TimerRG)	15 (shared with TimerRC, TimerRD, TimerRE, TimerRG)	11 (shared with TimerRB, TimerRC, TimerRD, TimerRG)	2 (shared with TimerRA, TimerRG)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0 to UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	68	Comparator B x 2 48seg x 8com	20MHz/ 2.7 to 5.5V, 5MHz/ 1.8 to 5.5V	-40 to 85	PLQP0080JA-A
			R5F2L387CDFP																																						PLQP0080KB-A
			R5F2L387CNFA																																					-20 to 85	PLQP0080JA-A
			R5F2L387CNFP																																						PLQP0080KB-A
			R5F2L388CDFA	64K + 4K	8K																																			-40 to 85	PLQP0080JA-A
			R5F2L388CDFP																																						PLQP0080KB-A
			R5F2L388CNFA																																					-20 to 85	PLQP0080JA-A
			R5F2L388CNFP																																						PLQP0080KB-A
			R5F2L38ACDFA	96K + 4K	10K																																			-40 to 85	PLQP0080JA-A
			R5F2L38ACDFP																																						PLQP0080KB-A
			R5F2L38ACNFA																																					-20 to 85	PLQP0080JA-A
			R5F2L38ACNFP																																						PLQP0080KB-A
			R5F2L38CCDFA	128K + 4K																																				-40 to 85	PLQP0080JA-A
			R5F2L38CCDFP																																						PLQP0080KB-A
			R5F2L38CCNFA																																					-20 to 85	PLQP0080JA-A
			R5F2L38CCNFP																																						PLQP0080KB-A
		R5F2L3A7CDFA	48K + 4K	6K																																			-40 to 85	PRQP0100JD-B
			R5F2L3A7CDFP																																						PLQP0100KB-A
			R5F2L3A7CNFA																																					-20 to 85	PRQP0100JD-B
			R5F2L3A7CNFP																																						PLQP0100KB-A
			R5F2L3A8CDFA	64K + 4K	8K																																			-40 to 85	PRQP0100JD-B
			R5F2L3A8CDFP																																						PLQP0100KB-A
			R5F2L3A8CNFA																																					-20 to 85	PRQP0100JD-B
			R5F2L3A8CNFP																																						PLQP0100KB-A
			R5F2L3AACDFA	96K + 4K	10K																																			-40 to 85	PRQP0100JD-B
			R5F2L3AACDFP																																						PLQP0100KB-A
			R5F2L3AACNFA																																					-20 to 85	PRQP0100JD-B
			R5F2L3AACNFP																																						PLQP0100KB-A
			R5F2L3ACCDFA	128K + 4K																																				-40 to 85	PRQP0100JD-B
			R5F2L3ACCDFP																																						PLQP0100KB-A
			R5F2L3ACCNFA																																					-20 to 85	PRQP0100JD-B
			R5F2L3ACCNFP																																						PLQP0100KB-A

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
LCD	R8C/Lx	R8C/LA3A	R5F2LA32ADFP*	8K + 2K	2K	F	2K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRH)	2 circuits (High speed : 20MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 5	Yes	–	3(TimerRB0, TimerRB1, TimerRH)	3(TimerRC, TimerRJ0, TimerRJ1)	4(shared with TimerRC)	5(shared with TimerRC, TimerRH)	5(shared with TimerRB0, TimerRB1, TimerRC)	2(shared with TimerRJ0, TimerRJ1)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	1(UART0)	–	–	1(shared with SSU)	1(shared with I²C)	26	Comparator B x 1 11seg x 4com LCD with memory effect	20MHz/2.7 to 5.5V, 8MHz/1.8 to 5.5V	-40 to 85	PLQP0032GB-A
			R5F2LA32ANFP*	8K + 2K																																				-20 to 85	
			R5F2LA34ADFP*	16K + 2K																																				-40 to 85	
			R5F2LA34ANFP*																																					-20 to 85	
			R5F2LA36ADFP*	32K + 2K																																				-40 to 85	
			R5F2LA36ANFP*																																					-20 to 85	
			R5F2LA38ADFP*	64K + 2K	3.5K																																			-40 to 85	
			R5F2LA38ANFP*																																					-20 to 85	
		R8C/LA5A	R5F2LA52ADFP*	8K + 2K	2K																10-bit x 7																	44	Comparator B x 1 27seg x 4com LCD with memory effect		-40 to 85	PLQP0052JA-A
			R5F2LA52ANFP*																																					-20 to 85	
			R5F2LA54ADFP*	16K + 2K																																				-40 to 85	
			R5F2LA54ANFP*																																					-20 to 85	
			R5F2LA56ADFP*	32K + 2K																																				-40 to 85	
			R5F2LA56ANFP*																																					-20 to 85	
			R5F2LA58ADFP*	64K + 2K	3.5K																																			-40 to 85	
			R5F2LA58ANFP*																																					-20 to 85	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
LCD	R8C/Lx	R8C/LA6A	R5F2LA64ADFA	16K + 2K	2K	F	2K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	4 circuits(Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRH)	2 circuits (High speed : 20MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 8	Yes	–	3(TimerRB0, TimerRB1, TimerRH)	3(TimerRC, TimerRJ0, TimerRJ1)	4(shared with TimerRC)	5(shared with TimerRC, TimerRH)	5(shared with TimerRB0, TimerRB1, TimerRC)	2(shared with TimerRJ0, TimerRJ1)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2(UART0, UART2)	–	–	1(shared with SSU)	1(shared with I²C)	56	Comparator Bx 2,32seg x 4com,LCD with memory effect	20MHz/ 2.7 to 5.5V, 8MHz/ 1.8 to 5.5V	-40 to 85	PLQP0064GA-A
			R5F2LA64ADFP																																						PLQP0064KB-A
			R5F2LA64ANFA																																						-20 to 85	PLQP0064GA-A
			R5F2LA64ANFP																																							PLQP0064KB-A
			R5F2LA66ADFA	32K + 2K																																					-40 to 85	PLQP0064GA-A
			R5F2LA66ADFP																																								PLQP0064KB-A
			R5F2LA66ANFA																																						-20 to 85	PLQP0064GA-A
			R5F2LA66ANFP																																								PLQP0064KB-A
			R5F2LA67ADFA	48K + 2K	3.5K																																				-40 to 85	PLQP0064GA-A
			R5F2LA67ADFP																																								PLQP0064KB-A
			R5F2LA67ANFA																																						-20 to 85	PLQP0064GA-A
			R5F2LA67ANFP																																								PLQP0064KB-A
			R5F2LA68ADFA	64K + 2K																																					-40 to 85	PLQP0064GA-A
			R5F2LA68ADFP																																								PLQP0064KB-A
			R5F2LA68ANFA																																						-20 to 85	PLQP0064GA-A
			R5F2LA68ANFP																																								PLQP0064KB-A
			R5F2LA6AADFA**	96K + 4K	5.5K		4K (Data Flash: program/ erase 10k times)																																			-40 to 85	PLQP0064GA-A
			R5F2LA6AADFP**																																								PLQP0064KB-A
			R5F2LA6AANFA**																																						-20 to 85	PLQP0064GA-A
			R5F2LA6AANFP**																																								PLQP0064KB-A
			R5F2LA6CADFA**	128K + 4K																																					-40 to 85	PLQP0064GA-A
			R5F2LA6CADFP**																																								PLQP0064KB-A
			R5F2LA6CANFA**																																						-20 to 85	PLQP0064GA-A
			R5F2LA6CANFP**																																								PLQP0064KB-A

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/Lx Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	SSU/ Special Serial I/O	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
LCD	R8C/Lx	R8C/LA8A	R5F2LA84ADFA	16K + 2K	2K	F	2K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRH)	2 circuits (High speed : 20MHz, Low speed : 125kHz)	Yes	Wait/ Stop/ Power-off	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	–	3(TimerRB0, TimerRB1, TimerRH)	4(TimerRC, TimerRJ0, TimerRJ1, TimerRJ2)	4(shared with TimerRC)	5(shared with TimerRC, TimerRH)	5(shared with TimerRB0, TimerRB1, TimerRC)	3(shared with TimerRJ0, TimerRJ1, TimerRJ2)	–	–	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2(UART0, UART2)	–	–	1(shared with SSU) + 1(UART2 (Simple I²C))	1(shared with I²C)	72	Comparator Bx 2,40seg x 4com, LCD with memory effect	20MHz/ 2.7 to 5.5V, 8MHz/ 1.8 to 5.5V	-40 to 85	PLQP0080JA-A
			R5F2LA84ADFP																																					PLQP0080KB-A
			R5F2LA84ANFA																																					-20 to 85	PLQP0080JA-A
			R5F2LA84ANFP																																						PLQP0080KB-A
			R5F2LA86ADFA	32K + 2K																																				-40 to 85	PLQP0080JA-A
			R5F2LA86ADFP																																						PLQP0080KB-A
			R5F2LA86ANFA																																					-20 to 85	PLQP0080JA-A
			R5F2LA86ANFP																																						PLQP0080KB-A
			R5F2LA87ADFA	48K + 2K	3.5K																																			-40 to 85	PLQP0080JA-A
			R5F2LA87ADFP																																						PLQP0080KB-A
			R5F2LA87ANFA																																					-20 to 85	PLQP0080JA-A
			R5F2LA87ANFP																																						PLQP0080KB-A
			R5F2LA88ADFA	64K + 2K																																				-40 to 85	PLQP0080JA-A
			R5F2LA88ADFP																																						PLQP0080KB-A
			R5F2LA88ANFA																																					-20 to 85	PLQP0080JA-A
			R5F2LA88ANFP																																						PLQP0080KB-A
			R5F2LA8AADFA**	96K + 4K	5.5K		4K (Data Flash: program/ erase 10k times)																																		-40 to 85	PLQP0080JA-A
			R5F2LA8AADFP**																																						PLQP0080KB-A
			R5F2LA8AANFA**																																					-20 to 85	PLQP0080JA-A
			R5F2LA8AANFP**																																						PLQP0080KB-A
			R5F2LA8CADFA**	128K + 4K																																				-40 to 85	PLQP0080JA-A
			R5F2LA8CADFP**																																						PLQP0080KB-A
			R5F2LA8CANFA**																																					-20 to 85	PLQP0080JA-A
			R5F2LA8CANFP**																																						PLQP0080KB-A

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/2x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer								Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/2x	R8C/2J	R5F212J0SDSP	2K	256	F	–	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	125 (@8MHz)	–	2 circuits (High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 8MHz, Low speed : 125kHz)	–	Wait/ Stop	Yes	Yes(Voltage detection 3)	–	–	–	2 (TimerRA, TimerRB)	1 (TimerRF)	1 (shared with TimerRF)	1 (shared with TimerRF)	1 (shared with TimerRB)	1 (shared with TimerRA)	–	–	1(with automatic start, clock source protection function)	1(UART0)	–	–	–	12	Comparator x 2 (shared with voltage monitor 1 and 2)	8MHz/ 2.7 to 5.5V, 4MHz/ 2.2 to 5.5V	-40 to 85	PLSP0020JB-A
			R5F212J0SNSP																																					-20 to 85	
			R5F212J1SDSP	4K	384																																			-40 to 85	
			R5F212J1SNSP																																					-20 to 85	
		R8C/2H	R5F212H1SDSP	4K	256								3 circuits (Subclock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)								3 (TimerRA, TimerRB, TimerRE)			2 (shared with TimerRE, TimerRF)								2 (UART0, UART2)					15			-40 to 85	
			R5F212H1SNSP																																					-20 to 85	
			R5F212H2SDSP	8K	384																																			-40 to 85	
			R5F212H2SNSP																																					-20 to 85	
		R8C/28	R5F21282SDSP	8K	512						50 (@20MHz)		4 circuits (Main clock, subclock, High-speed on-chip oscillator, Low-speed on-chip oscillator)			2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes				10-bit x 4	Yes			1 (TimerRC)	4 (shared with TimerRC)	5 (shared with TimerRC, TimerRE)	4 (shared with TimerRB, TimerRC)						1 (UART0)	1 (UART1)	1(shared with SSU)	1(shared with I²C)	13	–	20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V, 5MHz/ 2.2 to 5.5V	-40 to 85	
			R5F21282SNSP																																					-20 to 85	
			R5F21284SDSP	16K	1K																																			-40 to 85	
			R5F21284SNSP																																					-20 to 85	
		R8C/29	R5F21292SDSP	8K + 2K	512		2K (Data Flash: program/ erase 10k times)																																		-40 to 85	
			R5F21292SNSP																																					-20 to 85	
			R5F21294SDSP	16K + 2K	1K																																			-40 to 85	
			R5F21294SNSP																																					-20 to 85	

★ : New product ★★ : Under development
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R8C/2x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/2x	R8C/2G	R5F212G4SDFP	16K	512	F	–	Yes(ID Code Check Function, ROM Code Protect Function)	R8C core	89	125 (@8MHz)	–	3 circuits (Subclock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 8MHz, Low speed : 125kHz)	–	Wait/ Stop	Yes	Yes(Voltage detection 3)	–	–	–	3 (TimerRA, TimerRB, TimerRE)	1(TimerRF)	1 (shared with TimerRF)	2 (shared with TimerRE, TimerRF)	1 (shared with TimerRB)	1 (shared with TimerRA)	–	–	1(with automatic start, clock source protection function)	2 (UART0, UART2)	–	–	–	–	27	Comparator x 2 (shared with voltage monitor 1 and 2)	8MHz/ 2.7 to 5.5V, 4MHz/ 2.2 to 5.5V	-40 to 85	PLQP0032GB-A
			R5F212G4SNFP																																				-20 to 85	
			R5F212G5SDFP	24K	1K																																		-40 to 85	
			R5F212G5SNFP																																				-20 to 85	
			R5F212G6SDFP	32K																																			-40 to 85	
			R5F212G6SNFP																																				-20 to 85	
		R8C/2E	R5F212E2DFP	8K	512								3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)				Yes(Voltage detection 2)	10-bit x 12	Yes	8-bit x 2	2 (TimerRA, TimerRB)	1(TimerRC)	4 (shared with TimerRC)	5 (shared with TimerRC, TimerRE)	4 (shared with TimerRB, TimerRC)				1 (UART0)					25	Comparator x 2	20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-40 to 85	
			R5F212E2NFP																																				-20 to 85	
			R5F212E4DFP	16K	1K																																		-40 to 85	
			R5F212E4NFP																																				-20 to 85	
		R8C/2F	R5F212F2DFP	8K + 2K	512		2K (Data Flash: program/ erase 10k times)				50 (@20MHz)									Yes(Voltage detection 2)	10-bit x 12			3(TimerRC, TimerRD)	12 (shared with TimerRC, TimerRD)	12 (shared with TimerRC, TimerRD)	10 (shared with TimerRB, TimerRC, TimerRD)			1 (shared with TimerRD)							Comparator x 2		-40 to 85	
			R5F212F2NFP																																				-20 to 85	
			R5F212F4DFP	16K + 2K	1K																																		-40 to 85	
			R5F212F4NFP																																				-20 to 85	
		R8C/2K	R5F212K2SDFP	8K	1K		–													Yes(Voltage detection 3)	10-bit x 9		–	2 (TimerRA, TimerRB)						1 (shared with TimerRD)		2 (UART0, UART2)							20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V, 5MHz/ 2.2 to 5.5V	-40 to 85	
			R5F212K2SNFP																																				-20 to 85	
			R5F212K4SDFP	16K	1.5K																																		-40 to 85	
			R5F212K4SNFP																																				-20 to 85	
		R8C/2L	R5F212L2SDFP	8K + 2K	1K		2K (Data Flash: program/ erase 10k times)																																-40 to 85	
			R5F212L2SNFP																																				-20 to 85	
			R5F212L4SDFP	16K + 2K	1.5K																																		-40 to 85	
			R5F212L4SNFP																																				-20 to 85	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C2x/ Series

Device				Memory					CPU			DMA	Clock						Power Supply Voltage Detection		ADC		DAC	Timer									Serial Interface					I/O Ports	Other Functions			
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	SSU/ Special Serial I/O	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
General-purpose	R8C/2x	R8C/26	R5F21262SDFP	8K	512	F	–	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	–	3(TimerRA, TimerRB, TimerRE)	1(TimerRC)	4(shared with TimerRC)	5(shared with TimerRC, TimerRE)	4(shared with TimerRB, TimerRC)	1(shared with TimerRA)	–	–	1(with automatic start, clock source protection function)	2(UART0, UART1)	–	–	1(Share with SSU)	1(Share with I²C)	25	–	20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V, 5MHz/ 2.2 to 5.5V	-40 to 85	PLQP0032GB-A
			R5F21262SNFP																																						-20 to 85	
			R5F21264SDFP	16K	1K																																				-40 to 85	
			R5F21264SNFP																																						-20 to 85	
			R5F21265SDFP	24K	1.5K																																				-40 to 85	
			R5F21265SNFP																																						-20 to 85	
			R5F21266SDFP	32K																																					-40 to 85	
			R5F21266SNFP																																						-20 to 85	
		R8C/27	R5F21272SDFP	8K + 2K	512		2K (Data Flash: program/ erase 10k times)																																		-40 to 85	
			R5F21272SNFP																																						-20 to 85	
			R5F21274SDFP	16K + 2K	1K																																				-40 to 85	
			R5F21274SNFP																																						-20 to 85	
			R5F21275SDFP	24K + 2K	1.5K																																				-40 to 85	
			R5F21275SNFP																																						-20 to 85	
			R5F21276SDFP	32K + 2K																																					-40 to 85	
			R5F21276SNFP																																						-20 to 85	
		R8C/22	R5F21226DFP	32K	2K		–						3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–					Yes(Voltage detection 2)					2(TimerRD)	8(shared with TimerRD)	9(shared with TimerRD, TimerRE)	7(shared with TimerRB, TimerRD)			1(shared with TimerRD)		1(UART0)		1 (UART1)			41		20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21227DFP	48K	2.5K																																					
			R5F21228DFP	64K	3K																																					
		R8C/23	R5F21236DFP	32K + 2K	2K		2K (Data Flash: program/ erase 10k times)																																			
			R5F21237DFP	48K + 2K	2.5K																																					
			R5F21238DFP	64K + 2K	3K																																					
		R8C/24	R5F21244SDFP	16K	1K		–						4 circuits(Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)					Yes(Voltage detection 3)													2(UART0, UART1)		–					20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V, 5MHz/ 2.2 to 5.5V		PLQP0052JA-A
			R5F21244SNFP																																						-20 to 85	
			R5F21244SNLG																																							PTLG0064JA-A
			R5F21245SDFP	24K	2K																																				-40 to 85	PLQP0052JA-A
			R5F21245SNFP																																						-20 to 85	
			R5F21246SDFP	32K																																					-40 to 85	
			R5F21246SNFP																																						-20 to 85	
			R5F21246SNLG																																							PTLG0064JA-A
			R5F21247SDFP	48K	2.5K																																				-40 to 85	PLQP0052JA-A
			R5F21247SNFP																																						-20 to 85	
			R5F21248SDFP	64K	3K																																				-40 to 85	
			R5F21248SNFP																																						-20 to 85	
		R8C/25	R5F21254SDFP	16K + 2K	1K		2K (Data Flash: program/ erase 10k times)																																		-40 to 85	
			R5F21254SNFP																																						-20 to 85	
			R5F21254SNLG																																							PTLG0064JA-A
			R5F21255SDFP	24K + 2K	2K																																				-40 to 85	PLQP0052JA-A
			R5F21255SNFP																																						-20 to 85	
			R5F21256SDFP	32K + 2K																																					-40 to 85	
			R5F21256SNFP																																						-20 to 85	
			R5F21256SNLG																																							PTLG0064JA-A
			R5F21257SDFP	48K + 2K	2.5K																																				-40 to 85	PLQP0052JA-A
			R5F21257SNFP																																						-20 to 85	
			R5F21258SDFP	64K + 2K	3K																																				-40 to 85	
			R5F21258SNFP																																						-20 to 85	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/2x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/2x	R8C/2A	R5F212A7SDFA	48K	2.5K	F	–	Yes(ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	4 circuits (Main clock, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes (TimerRE)	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	8-bit x 2	3 (TimerRA, TimerRB, TimerRE)	4 (TimerRC, TimerRD, TimerRF)	13 (shared with TimerRC, TimerRD, TimerRF)	14 (shared with TimerRC, TimerRD, TimerRE, TimerRF)	10 (shared with TimerRB, TimerRC, TimerRD)	1 (shared with TimerRA)	–	1 (shared with TimerRD)	1(with automatic start, clock source protection function)	3 (UART0 to UART2)	–	–	1 (shared with SSU)	1 (shared with I²C)	55	–	20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V, 5MHz/ 2.2 to 5.5V	-40 to 85	PLQP0064GA-A
			R5F212A7SDFP																																					PLQP0064KB-A
			R5F212A7SNFA																																					PLQP0064GA-A
			R5F212A7SNFP																																					PLQP0064KB-A
			R5F212A7SNLG																																					PTLG0064JA-A
			R5F212A8SDFA	64K	3K																																			PLQP0064GA-A
			R5F212A8SDFP																																					PLQP0064KB-A
			R5F212A8SNFA																																					PLQP0064GA-A
			R5F212A8SNFP																																					PLQP0064KB-A
			R5F212A8SNLG																																					PTLG0064JA-A
			R5F212AASDFA	96K	7K																																			PLQP0064GA-A
			R5F212AASDFP																																					PLQP0064KB-A
			R5F212AASNFA																																					PLQP0064GA-A
			R5F212AASNFP																																					PLQP0064KB-A
			R5F212AASNLG																																					PTLG0064JA-A
			R5F212ACSDFA	128K	7.5K																																			PLQP0064GA-A
			R5F212ACSDFP																																					PLQP0064KB-A
			R5F212ACSNFA																																					PLQP0064GA-A
			R5F212ACSNFP																																					PLQP0064KB-A
			R5F212ACSNLG																																					PTLG0064JA-A
		R8C/2B	R5F212B7SDFA	48K + 2K	2.5K		2K (Data Flash: program/ erase 10k times)																																			PLQP0064GA-A
			R5F212B7SDFP																																					PLQP0064KB-A
			R5F212B7SNFA																																					PLQP0064GA-A
			R5F212B7SNFP																																					PLQP0064KB-A
			R5F212B7SNLG																																					PTLG0064JA-A
			R5F212B8SDFA	64K + 2K	3K																																			PLQP0064GA-A
			R5F212B8SDFP																																					PLQP0064KB-A
			R5F212B8SNFA																																					PLQP0064GA-A
			R5F212B8SNFP																																					PLQP0064KB-A
			R5F212B8SNLG																																					PTLG0064JA-A
			R5F212BASDFA	96K + 2K	7K																																			PLQP0064GA-A
			R5F212BASDFP																																					PLQP0064KB-A
			R5F212BASNFA																																					PLQP0064GA-A
			R5F212BASNFP																																					PLQP0064KB-A
			R5F212BASNLG																																					PTLG0064JA-A
			R5F212BCSDFA	128K + 2K	7.5K																																			PLQP0064GA-A
			R5F212BCSDFP																																					PLQP0064KB-A
			R5F212BCSNFA																																					PLQP0064GA-A
			R5F212BCSNFP																																					PLQP0064KB-A
			R5F212BCSNLG																																					PTLG0064JA-A
		R8C/2C	R5F212C7SDFP	48K	2.5K		–														10-bit x 20																	71			-40 to 85	PLQP0080KB-A
			R5F212C7SNFP																																							-20 to 85	
			R5F212C8SDFP	64K	3K																																					-40 to 85	
			R5F212C8SNFP																																							-20 to 85	
			R5F212CASDFP	96K	7K																																					-40 to 85	
			R5F212CASNFP																																							-20 to 85	
			R5F212CCSDFP	128K	7.5K																																					-40 to 85	
			R5F212CCSNFP																																							-20 to 85	
		R8C/2D	R5F212D7SDFP	48K + 2K	2.5K		2K (Data Flash: program/ erase 10k times)																																					-40 to 85	
			R5F212D7SNFP																																							-20 to 85	
			R5F212D8SDFP	64K + 2K	3K																																					-40 to 85	
			R5F212D8SNFP																																							-20 to 85	
			R5F212DASDFP	96K + 2K	7K																																					-40 to 85	
			R5F212DASNFP																																							-20 to 85	
			R5F212DCSDFP	128K + 2K	7.5K																																					-40 to 85	
			R5F212DCSNFP																																							-20 to 85	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/1x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/1x	R8C/18	R5F21181DD	4K	384	F	–	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 8MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 2)	–	–	–	2 (TimerX, TimerZ)	1 (TimerC)	1 (shared with TimerC)	1 (shared with TimerC)	1 (shared with TimerZ)	1 (shared with TimerX)	–	–	1(with automatic start, clock source protection function)	1 (UART0)	–	1 (UART1)	–	–	13	Comparator	20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85	PRDP0020BA-A
			R5F21181DSP																																					-40 to 85	PLSP0020JB-A
			R5F21181SP																																					-20 to 85	
			R5F21182DD	8K	512																																				PRDP0020BA-A
			R5F21182DSP																																					-40 to 85	PLSP0020JB-A
			R5F21182NP																																						PWQN0028KA-B
			R5F21182SP																																					-20 to 85	PLSP0020JB-A
			R5F21183DD	12K	768																																				PRDP0020BA-A
			R5F21183DSP																																					-40 to 85	PLSP0020JB-A
			R5F21183NP																																						PWQN0028KA-B
			R5F21183SP																																					-20 to 85	PLSP0020JB-A
			R5F21184DD	16K	1K																																				PRDP0020BA-A
			R5F21184DSP																																					-40 to 85	PLSP0020JB-A
			R5F21184NP																																						PWQN0028KA-B
			R5F21184SP																																					-20 to 85	PLSP0020JB-A
		R8C/19	R5F21191DD	4K + 2K	384		2K (Data Flash: program/ erase 10k times)																																				PRDP0020BA-A
			R5F21191DSP																																					-40 to 85	PLSP0020JB-A
			R5F21191SP																																					-20 to 85	
			R5F21192DD	8K + 2K	512																																				PRDP0020BA-A
			R5F21192DSP																																					-40 to 85	PLSP0020JB-A
			R5F21192NP																																						PWQN0028KA-B
			R5F21192SP																																					-20 to 85	PLSP0020JB-A
			R5F21193DD	12K + 2K	768																																				PRDP0020BA-A
			R5F21193DSP																																					-40 to 85	PLSP0020JB-A
			R5F21193NP																																						PWQN0028KA-B
			R5F21193SP																																					-20 to 85	PLSP0020JB-A
			R5F21194DD	16K + 2K	1K																																				PRDP0020BA-A
			R5F21194DSP																																					-40 to 85	PLSP0020JB-A
			R5F21194NP																																						PWQN0028KA-B
			R5F21194SP																																					-20 to 85	PLSP0020JB-A

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*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/1x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer									Watchdog Timer	Serial Interface			I²C-bus	SSU/ Special Serial I/O	I/O Ports	Other Functions		Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only			CMOS I/O (Numbers)	Others			
General-purpose	R8C/1x	R8C/1A	R5F211A1DD	4K	384	F	–	Yes (ID Code Check Function , ROM Code Protect Function))	R8C core	89	50 (@20MHz)	–	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 8MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 2)	10-bit x 4	Yes	–	2 (TimerX, TimerZ)	1 (TimerC)	1 (shared with TimerC)	1 (shared with TimerC)	1 (shared with TimerZ)	1 (shared with TimerX)	–	–	1(with automatic start, clock source protection function)	1 (UART0)	–	1 (UART1)	1 (shared with SSU)	1 (shared with I²C)	13	–	20MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85	PRDP0020BA-A
			R5F211A1DSP																																					-40 to 85	PLSP0020JB-A
			R5F211A1SP																																					-20 to 85	PRDP0020BA-A
			R5F211A2DD	8K	512																																			-40 to 85	PLSP0020JB-A
			R5F211A2DSP																																					-20 to 85	PWQN0028KA-B
			R5F211A2NP																																						PLSP0020JB-A
			R5F211A2SP																																						PRDP0020BA-A
			R5F211A3DD	12K	768																																			-40 to 85	PLSP0020JB-A
			R5F211A3DSP																																					-20 to 85	PWQN0028KA-B
			R5F211A3NP																																						PLSP0020JB-A
			R5F211A3SP																																						PRDP0020BA-A
			R5F211A4DD	16K	1K																																			-40 to 85	PLSP0020JB-A
			R5F211A4DSP																																					-20 to 85	PWQN0028KA-B
			R5F211A4NP																																						PLSP0020JB-A
			R5F211A4SP																																						PRDP0020BA-A
		R8C/1B	R5F211B1DD	4K + 2K	384		2K (Data Flash: program/ erase 10k times)																																		-40 to 85	PLSP0020JB-A
			R5F211B1DSP																																					-20 to 85	PRDP0020BA-A
			R5F211B1SP																																						PLSP0020JB-A
			R5F211B2DD	8K + 2K	512																																			-40 to 85	PLSP0020JB-A
			R5F211B2DSP																																					-20 to 85	PWQN0028KA-B
			R5F211B2NP																																						PLSP0020JB-A
			R5F211B2SP																																						PRDP0020BA-A
			R5F211B3DD	12K + 2K	768																																			-40 to 85	PLSP0020JB-A
			R5F211B3DSP																																					-20 to 85	PWQN0028KA-B
			R5F211B3NP																																						PLSP0020JB-A
			R5F211B3SP																																						PRDP0020BA-A
			R5F211B4DD	16K + 2K	1K																																			-40 to 85	PLSP0020JB-A
			R5F211B4DSP																																					-20 to 85	PWQN0028KA-B
			R5F211B4NP																																						PLSP0020JB-A
			R5F211B4SP																																								

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/5x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer										Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/5x	R8C/56E	R5F21566EJFP**	32K + 4K	2.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	31.25 (@32MHz)	DTC (Activation sources: 42)	4 circuits (Main clock, PLL, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 16	Yes	–	1(TimerRE2)	9(TimerRJ_0, TimerRJ_1, TimerRB2, TimerRC_0, TimerRC_1, TimerRD, TimerRF, TimerRG)	18(shared with TimerRC_0, TimerRC_1, TimerRD, TimerRF, TimerRG)	19(shared with TimerRC_0, TimerRC_1, TimerRD, TimerRE2, TimerRF, TimerRG)	14(shared with TimerRB2, TimerRC_0, TimerRC_1, TimerRD, TimerRG)	–	2(shared with TimerRJ_0, TimerRJ_1)	–	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0, 1(LIN), UART2)	–	–	2(shared with SSU)	1(UART2)	2(shared with I²C)	1	59	Simple PMC(Peripheral Mapping Controller), ELC(Event Link Controller), Comparator B x 2	32MHz/ 2.7 to 5.5V	-40 to 85	PLQP0064KB-A
			R5F21566EKFP**	32K + 4K	2.5K																																						-40 to 125	
			R5F21567EJFP**	48K + 4K	4K																																							-40 to 85	
			R5F21567EKFP**	48K + 4K	4K																																							-40 to 125	
			R5F21568EJFP**	64K + 4K	6K																																							-40 to 85	
			R5F21568EKFP**	64K + 4K	6K																																							-40 to 125	
			R5F2156AEJFP**	96K + 4K	8K																																							-40 to 85	
			R5F2156AEKFP**	96K + 4K	8K																																							-40 to 125	
			R5F2156CEJFP**	128K + 4K	10K																																							-40 to 85	
			R5F2156CEKFP**	128K + 4K	10K																																							-40 to 125	
		R8C/56F	R5F21566FJFP**	32K	2.5K		–																																				-40 to 85	
			R5F21566FKFP**	32K	2.5K																																							-40 to 125	
			R5F21567FJFP**	48K	4K																																							-40 to 85	
			R5F21567FKFP**	48K	4K																																							-40 to 125	
			R5F21568FJFP**	64K	6K																																							-40 to 85	
			R5F21568FKFP**	64K	6K																																							-40 to 125	
			R5F2156AFJFP**	96K	8K																																							-40 to 85	
			R5F2156AFKFP**	96K	8K																																							-40 to 125	
			R5F2156CFJFP**	128K	10K																																							-40 to 85	
			R5F2156CFKFP**	128K	10K																																							-40 to 125	
		R8C/56G	R5F21566GJFP**	32K + 4K	2.5K		4K (Data Flash: program/ erase 10k times)																																							-40 to 85	
			R5F21566GKFP**	32K + 4K	2.5K																																							-40 to 125	
			R5F21567GJFP**	48K + 4K	4K																																							-40 to 85	
			R5F21567GKFP**	48K + 4K	4K																																							-40 to 125	
			R5F21568GJFP**	64K + 4K	6K																																							-40 to 85	
			R5F21568GKFP**	64K + 4K	6K																																							-40 to 125	
			R5F2156AGJFP**	96K + 4K	8K																																							-40 to 85	
			R5F2156AGKFP**	96K + 4K	8K																																							-40 to 125	
			R5F2156CGJFP**	128K + 4K	10K																																							-40 to 85	
			R5F2156CGKFP**	128K + 4K	10K																																							-40 to 125	
		R8C/56H	R5F21566HJFP**	32K	2.5K		–																																				-40 to 85	
			R5F21566HKFP**	32K	2.5K																																							-40 to 125	
			R5F21567HJFP**	48K	4K																																							-40 to 85	
			R5F21567HKFP**	48K	4K																																							-40 to 125	
			R5F21568HJFP**	64K	6K																																							-40 to 85	
			R5F21568HKFP**	64K	6K																																							-40 to 125	
			R5F2156AHJFP**	96K	8K																																							-40 to 85	
			R5F2156AHKFP**	96K	8K																																							-40 to 125	
			R5F2156CHJFP**	128K	10K																																							-40 to 85	
			R5F2156CHKFP**	128K	10K																																							-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/5x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer										Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/5x	R8C/54E	R5F21546EJFP**	32K + 4K	2.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	31.25 (@32MHz)	DTC (Activation sources:36)	4 circuits (Main clock, PLL, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	–	1(TimerRE2)	6(TimerRJ_0, TimerRJ_1, TimerRB2, TimerRC, TimerRD)	12(shared with TimerRC, TimerRD)	13(shared with TimerRC, TimerRD, TimerRE2)	10(shared with TimerRB2, TimerRC, TimerRD)	–	2(shared with TimerRJ_0, TimerRJ_1)	–	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3(UART0, 1(LIN), UART2)	–	–	2(shared with SSU)	1(UART2)	2(shared with I²C)	1	43	Simple PMC(Peripheral Mapping Controller), ELC(Event Link Controller), Comparator B x 2	32MHz/ 2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21546EKFP**																																							-40 to 125	
			R5F21547EJFP**	48K + 4K	4K																																					-40 to 85	
			R5F21547EKFP**																																							-40 to 125	
			R5F21548EJFP**	64K + 4K	6K																																					-40 to 85	
			R5F21548EKFP**																																							-40 to 125	
			R5F2154AEJFP**	96K + 4K	8K																																					-40 to 85	
			R5F2154AEKFP**																																							-40 to 125	
			R5F2154CEJFP**	128K + 4K	10K																																					-40 to 85	
			R5F2154CEKFP**																																							-40 to 125	
		R8C/54F	R5F21546FJFP**	32K	2.5K		–																																			-40 to 85	
			R5F21546FKFP**																																							-40 to 125	
			R5F21547FJFP**	48K	4K																																					-40 to 85	
			R5F21547FKFP**																																							-40 to 125	
			R5F21548FJFP**	64K	6K																																					-40 to 85	
			R5F21548FKFP**																																							-40 to 125	
			R5F2154AFJFP**	96K	8K																																					-40 to 85	
			R5F2154AFKFP**																																							-40 to 125	
			R5F2154CFJFP**	128K	10K																																					-40 to 85	
			R5F2154CFKFP**																																							-40 to 125	
		R8C/54G	R5F21546GJFP**	32K + 4K	2.5K		4K (Data Flash: program/ erase 10k times)																																					-40 to 85	
			R5F21546GKFP**																																							-40 to 125	
			R5F21547GJFP**	48K + 4K	4K																																					-40 to 85	
			R5F21547GKFP**																																							-40 to 125	
			R5F21548GJFP**	64K + 4K	6K																																					-40 to 85	
			R5F21548GKFP**																																							-40 to 125	
			R5F2154AGJFP**	96K + 4K	8K																																					-40 to 85	
			R5F2154AGKFP**																																							-40 to 125	
			R5F2154CGJFP**	128K + 4K	10K																																					-40 to 85	
			R5F2154CGKFP**																																							-40 to 125	
		R8C/54H	R5F21546HJFP**	32K	2.5K		–																																			-40 to 85	
			R5F21546HKFP**																																							-40 to 125	
			R5F21547HJFP**	48K	4K																																					-40 to 85	
			R5F21547HKFP**																																							-40 to 125	
			R5F21548HJFP**	64K	6K																																					-40 to 85	
			R5F21548HKFP**																																							-40 to 125	
			R5F2154AHJFP**	96K	8K																																					-40 to 85	
			R5F2154AHKFP**																																							-40 to 125	
			R5F2154CHJFP**	128K	10K																																					-40 to 85	
			R5F2154CHKFP**																																							-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer											Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/38W	R5F21388WJFP	64K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 @20MHz	DTC (Activation sources: 40)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 20	Yes	–	4(TimerRA0, TimerRA1, TimerRB, TimerRE)	5(TimerRC, TimerRD, TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	–	3 (shared with TimerRA0, TimerRA1, TimerRG)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0, 1(LIN), UART2)	–	–	1 (UART2 (Simple I²C))	1 (UART2)	1	1	75	–	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0080KB-A
			R5F21388WKFP																																								-40 to 125	
			R5F2138AWJFP	96K + 4K	8K																																						-40 to 85	
			R5F2138AWKFP																																								-40 to 125	
			R5F2138CWJFP	128K + 4K	10K																																						-40 to 85	
			R5F2138CWKFP																																								-40 to 125	
		R8C/38X	R5F21388XJFP	64K	6K		–																																				-40 to 85	
			R5F21388XKFP																																									-40 to 125	
			R5F2138AXJFP	96K	8K																																							-40 to 85	
			R5F2138AXKFP																																									-40 to 125	
			R5F2138CXJFP	128K	10K																																							-40 to 85	
			R5F2138CXKFP																																									-40 to 125	
		R8C/38Y	R5F21388YJFP	64K	6K		4K (Data Flash: program/ erase 10k times)																																						-40 to 85	
			R5F21388YKFP	+ 4K																																								-40 to 125	
			R5F2138AYJFP	96K	8K																																								-40 to 85	
			R5F2138AYKFP	+ 4K																																									-40 to 125	
			R5F2138CYJFP	128K	10K																																							-40 to 85	
			R5F2138CYKFP	+ 4K																																									-40 to 125	
		R8C/38Z	R5F21388ZJFP	64K	6K		–																																				-40 to 85	
			R5F21388ZKFP																																										-40 to 125	
			R5F2138AZJFP	96K	8K																																								-40 to 85	
			R5F2138AZKFP																																										-40 to 125	
			R5F2138CZJFP	128K	10K																																								-40 to 85	
			R5F2138CZKFP																																										-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer											Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/36W	R5F21368WJFP	64K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 @20MHz	DTC (Activation sources:40)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 16	Yes	–	4(TimerRA0, TimerRA1, TimerRB, TimerRE)	5(TimerRC, TimerRD, TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	–	3(shared with TimerRA0, TimerRA1, TimerRG)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0, 1(LIN), UART2)	–	–	1 (UART2 (Simple I²C))	1 (UART2)	1	1	59	–	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0064KB-A
			R5F21368WKFP																																								-40 to 125
			R5F2136AWJFP	96K + 4K	8K																																						-40 to 85
			R5F2136AWKFP																																								-40 to 125
			R5F2136CWJFP	128K + 4K	10K																																						-40 to 85
			R5F2136CWKFP																																								-40 to 125
		R8C/36X	R5F21368XJFP	64K	6K		–																																				-40 to 85
			R5F21368XKFP																																									-40 to 125
			R5F2136AXJFP	96K	8K																																							-40 to 85
			R5F2136AXKFP																																									-40 to 125
			R5F2136CXJFP	128K	10K																																							-40 to 85
			R5F2136CXKFP																																									-40 to 125
		R8C/36Y	R5F21368YJFP	64K + 4K	6K		4K (Data Flash: program/ erase 10k times)																																						-40 to 85
			R5F21368YKFP																																									-40 to 125
			R5F2136AYJFP	96K + 4K	8K																																							-40 to 85
			R5F2136AYKFP																																									-40 to 125
			R5F2136CYJFP	128K + 4K	10K																																							-40 to 85
			R5F2136CYKFP																																									-40 to 125
		R8C/36Z	R5F21368ZJFP	64K	6K		–																																				-40 to 85
			R5F21368ZKFP																																									-40 to 125
			R5F2136AZJFP	96K	8K																																							-40 to 85
			R5F2136AZKFP																																									-40 to 125
			R5F2136CZJFP	128K	10K																																							-40 to 85
			R5F2136CZKFP																																									-40 to 125

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer										Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/34W	R5F21346WJFP	32K + 4K	2.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 31)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	–	3 (TimerRA, TimerRB, TimerRE)	3(TimerRC, TimerRD)	12 (shared with TimerRC, TimerRD)	13(shared with TimerRC, TimerRD, TimerRE)	10(shared with TimerRB, TimerRC, TimerRD)	–	1 (shared with TimerRA)	–	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2 (UART0(LIN), UART2)	–	–	1 (UART2 (Simple I²C))	1 (UART2)	1	1	43	–	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21346WKFP																																							-40 to 125	
			R5F21347WJFP	48K + 4K	4K																																					-40 to 85	
			R5F21347WKFP																																							-40 to 125	
			R5F21348WJFP	64K + 4K	6K																																					-40 to 85	
			R5F21348WKFP																																							-40 to 125	
			R5F2134AWJFP	96K + 4K	8K																																					-40 to 85	
			R5F2134AWKFP																																							-40 to 125	
			R5F2134CWJFP	128K + 4K	10K																																					-40 to 85	
			R5F2134CWKFP																																							-40 to 125	
		R8C/34X	R5F21346XJFP	32K	2.5K		–																																		-40 to 85	
			R5F21346XKFP																																							-40 to 125	
			R5F21347XJFP	48K	4K																																					-40 to 85	
			R5F21347XKFP																																							-40 to 125	
			R5F21348XJFP	64K	6K																																					-40 to 85	
			R5F21348XKFP																																							-40 to 125	
			R5F2134AXJFP	96K	8K																																					-40 to 85	
			R5F2134AXKFP																																							-40 to 125	
			R5F2134CXJFP	128K	10K																																					-40 to 85	
			R5F2134CXKFP																																							-40 to 125	
		R8C/34Y	R5F21346YJFP	32K + 4K	2.5K		4K (Data Flash: program/ erase 10k times)																																					-40 to 85	
			R5F21346YKFP																																							-40 to 125	
			R5F21347YJFP	48K + 4K	4K																																					-40 to 85	
			R5F21347YKFP																																							-40 to 125	
			R5F21348YJFP	64K + 4K	6K																																					-40 to 85	
			R5F21348YKFP																																							-40 to 125	
			R5F2134AYJFP	96K + 4K	8K																																					-40 to 85	
			R5F2134AYKFP																																							-40 to 125	
			R5F2134CYJFP	128K + 4K	10K																																					-40 to 85	
			R5F2134CYKFP																																							-40 to 125	
		R8C/34Z	R5F21346ZJFP	32K	2.5K		–																																		-40 to 85	
			R5F21346ZKFP																																							-40 to 125	
			R5F21347ZJFP	48K	4K																																					-40 to 85	
			R5F21347ZKFP																																							-40 to 125	
			R5F21348ZJFP	64K	6K																																					-40 to 85	
			R5F21348ZKFP																																							-40 to 125	
			R5F2134AZJFP	96K	8K																																					-40 to 85	
			R5F2134AZKFP																																							-40 to 125	
			R5F2134CZJFP	128K	10K																																					-40 to 85	
			R5F2134CZKFP																																							-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock						Power Supply Voltage Detection		ADC		DAC	Timer													Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	IEBus	SSU/ Special Serial I/O	Channels	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/34P	R5F21344PJFP**	16K + 4K	1.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 30)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	8-bit x 2	2(TimerRA, TimerRB)	3(TimerRC, TimerRD)	12(shared with TimerRC, TimerRD)	12(shared with TimerRC, TimerRD)	10(shared with TimerRB, TimerRC, TimerRD)	–	1(shared with TimerRA)	–	1(shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2(UART0 (LIN), UART2)	–	–	1(UART2 (Simple I²C))	1(UART2)	1	–	43	Comparator B x 2	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21344PKFP**																																								-40 to 125	
			R5F21346PJFP**	32K + 4K	2.5K																																							-40 to 85	
			R5F21346PKFP**																																								-40 to 125	
		R8C/34R	R5F21344RJFP**	16K	1.5K		–																																				-40 to 85	
			R5F21344RKFP**																																									-40 to 125	
			R5F21346RJFP**	32K	2.5K																																							-40 to 85	
			R5F21346RKFP**																																								-40 to 125	
		R8C/33G	R5F21334GJFP	16K + 4K	1.5K		4K (Data Flash: program/ erase 10k times)					DTC (Activation sources: 28)																																		-40 to 85	PLQP0032GB-A
			R5F21334GKFP																																								-40 to 125	
			R5F21336GJFP	32K + 4K	2.5K																																							-40 to 85	
			R5F21336GKFP																																									-40 to 125	
		R8C/33H	R5F21334HJFP	16K	1.5K		–																																				-40 to 85	
			R5F21334HKFP																																									-40 to 125	
			R5F21336HJFP	32K	2.5K																																							-40 to 85	
			R5F21336HKFP																																									-40 to 125	
		R8C/32G	R5F21324GJSP*	16K + 4K	1.5K		4K (Data Flash: program/ erase 10k times)														10-bit x4		–																					-40 to 85	PLSP0020JB-A
			R5F21324GKSP**																																									-40 to 125	
			R5F21326GJSP*	32K + 4K	2.5K																																							-40 to 85	
			R5F21326GKSP**																																									-40 to 125	
		R8C/32H	R5F21324HJSP*	16K	1.5K		–																																				-40 to 85	
			R5F21324HKSP**																																									-40 to 125	
			R5F21326HJSP*	32K	2.5K																																							-40 to 85	
			R5F21326HKSP**																																									-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer										Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	IEBus	SSU/ Special Serial I/O	Channels	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/38E	R5F21388EJFP	64K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 @20MHz	DTC (Activation sources: 40)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 20	Yes	–	4(TimerRA0, TimerRA1, TimerRB, TimerRE)	5(TimerRC, TimerRD, TimerRF, TimerRG)	15(shared with TimerRC, TimerRD, TimerRF, TimerRG)	16(shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11(shared with TimerRB, TimerRC, TimerRD, TimerRG)	–	3(shared with TimerRA0, TimerRA1, TimerRG)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0, 1(LIN), UART2)	–	–	1 (UART2 (Simple I²C))	1 (UART2)	1	1	75	–	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0080KB-A
			R5F21388EKFP																																							-40 to 125
			R5F2138AEJFP	96K + 4K	8K																																					-40 to 85
			R5F2138AEKFP																																							-40 to 125
			R5F2138CEJFP	128K + 4K	10K																																					-40 to 85
			R5F2138CEKFP																																							-40 to 125
		R8C/38F	R5F21388FJFP	64K	6K		–																																1			-40 to 85
			R5F21388FKFP																																							-40 to 125
			R5F2138AFJFP	96K	8K																																					-40 to 85
			R5F2138AFKFP																																							-40 to 125
			R5F2138CFJFP	128K	10K																																					-40 to 85
			R5F2138CFKFP																																							-40 to 125
		R8C/38G	R5F21388GJFP	64K	6K		4K (Data Flash: program/ erase 10k times)																																					-40 to 85
			R5F21388GKFP	+ 4K																																							-40 to 125
			R5F2138AGJFP	96K	8K																																					-40 to 85
			R5F2138AGKFP	+ 4K																																							-40 to 125
			R5F2138CGJFP	128K	10K																																					-40 to 85
			R5F2138CGKFP	+ 4K																																							-40 to 125
		R8C/38H	R5F21388HJFP	64K	6K		–																																			-40 to 85
			R5F21388HKFP																																							-40 to 125
			R5F2138AHJFP	96K	8K																																					-40 to 85
			R5F2138AHKFP																																							-40 to 125
			R5F2138CHJFP	128K	10K																																					-40 to 85
			R5F2138CHKFP																																							-40 to 125

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer										Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/36E	R5F21368EJFP	64K + 4K	6K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 @20MHz	DTC (Activation sources: 40)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 16	Yes	–	4 (TimerRA0, TimerRA1, TimerRB, TimerRE)	5 (TimerRC, TimerRD, TimerRF, TimerRG)	15 (shared with TimerRC, TimerRD, TimerRF, TimerRG)	16 (shared with TimerRC, TimerRD, TimerRE, TimerRF, TimerRG)	11 (shared with TimerRB, TimerRC, TimerRD, TimerRG)	–	3 (shared with TimerRA0, TimerRA1, TimerRG)	1 (shared with TimerRG)	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	3 (UART0, 1(LIN), UART2)	–	–	1 (UART2 (Simple I²C))	1 (UART2)	1	1	59	–	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0064KB-A
			R5F21368EKFP																																							-40 to 125	
			R5F2136AEJFP	96K + 4K	8K																																					-40 to 85	
			R5F2136AEKFP																																							-40 to 125	
			R5F2136CEJFP	128K + 4K	10K																																					-40 to 85	
			R5F2136CEKFP																																							-40 to 125	
		R8C/36F	R5F21368FJFP	64K	6K		–																																			-40 to 85	
			R5F21368FKFP																																							-40 to 125	
			R5F2136AFJFP	96K	8K																																					-40 to 85	
			R5F2136AFKFP																																							-40 to 125	
			R5F2136CFJFP	128K	10K																																					-40 to 85	
			R5F2136CFKFP																																							-40 to 125	
		R8C/36G	R5F21368GJFP	64K + 4K	6K		4K (Data Flash: program/ erase 10k times)																																				-40 to 85	
			R5F21368GKFP																																							-40 to 125	
			R5F2136AGJFP	96K + 4K	8K																																					-40 to 85	
			R5F2136AGKFP																																							-40 to 125	
			R5F2136CGJFP	128K + 4K	10K																																					-40 to 85	
			R5F2136CGKFP																																							-40 to 125	
		R8C/36H	R5F21368HJFP	64K	6K		–																																			-40 to 85	
			R5F21368HKFP																																							-40 to 125	
			R5F2136AHJFP	96K	8K																																					-40 to 85	
			R5F2136AHKFP																																							-40 to 125	
			R5F2136CHJFP	128K	10K																																					-40 to 85	
			R5F2136CHKFP																																							-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/3x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer											Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/3x	R8C/34E	R5F21346EJFP	32K + 4K	2.5K	F	4K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	DTC (Activation sources: 31)	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 3)	10-bit x 12	Yes	–	3 (TimerRA, TimerRB, TimerRE)	3 (TimerRC, TimerRD)	12 (shared with TimerRC, TimerRD)	13 (shared with TimerRC, TimerRD, TimerRE)	10 (shared with TimerRB, TimerRC, TimerRD)	–	1 (shared with TimerRA)	–	1 (shared with TimerRD)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	2 (UART0 (LIN), UART2)	–	–	1 (UART2 (Simple I²C))	1 (UART2)	1	1	43	–	20MHz/ 2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21346EKFP																																								-40 to 125	
			R5F21347EJFP	48K + 4K	4K																																						-40 to 85	
			R5F21347EKFP																																								-40 to 125	
			R5F21348EJFP	64K + 4K	6K																																						-40 to 85	
			R5F21348EKFP																																								-40 to 125	
			R5F2134AEJFP	96K + 4K	8K																																							-40 to 85	
			R5F2134AEKFP																																								-40 to 125	
			R5F2134CEJFP	128K + 4K	10K																																							-40 to 85	
			R5F2134CEKFP																																								-40 to 125	
		R8C/34F	R5F21346FJFP	32K	2.5K		–																																				-40 to 85	
			R5F21346FKFP																																								-40 to 125	
			R5F21347FJFP	48K	4K																																							-40 to 85	
			R5F21347FKFP																																								-40 to 125	
			R5F21348FJFP	64K	6K																																							-40 to 85	
			R5F21348FKFP																																								-40 to 125	
			R5F2134AFJFP	96K	8K																																							-40 to 85	
			R5F2134AFKFP																																								-40 to 125	
			R5F2134CFJFP	128K	10K																																							-40 to 85	
			R5F2134CFKFP																																								-40 to 125	
		R8C/34G	R5F21346GJFP	32K + 4K	2.5K		4K (Data Flash: program/ erase 10k times)																																					-40 to 85	
			R5F21346GKFP																																								-40 to 125	
			R5F21347GJFP	48K + 4K	4K																																						-40 to 85	
			R5F21347GKFP																																								-40 to 125	
			R5F21348GJFP	64K + 4K	6K																																						-40 to 85	
			R5F21348GKFP																																								-40 to 125	
			R5F2134AGJFP	96K + 4K	8K																																							-40 to 85	
			R5F2134AGKFP																																								-40 to 125	
			R5F2134CGJFP	128K + 4K	10K																																							-40 to 85	
			R5F2134CGKFP																																								-40 to 125	
		R8C/34H	R5F21346HJFP	32K	2.5K		–																																				-40 to 85	
			R5F21346HKFP																																									-40 to 125	
			R5F21347HJFP	48K	4K																																							-40 to 85	
			R5F21347HKFP																																								-40 to 125	
			R5F21348HJFP	64K	6K																																							-40 to 85	
			R5F21348HKFP																																								-40 to 125	
			R5F2134AHJFP	96K	8K																																							-40 to 85	
			R5F2134AHKFP																																								-40 to 125	
			R5F2134CHJFP	128K	10K																																							-40 to 85	
			R5F2134CHKFP																																								-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/2x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer											Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control		Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only				Channels	CMOS I/O (Numbers)	Others			
Body Electronics, In-Vehicle Networking	R8C/2x	R8C/23	R5F21236JFP	32K + 2K	2K	F	2K (Data Flash: program/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz)	–	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 2)	10-bit x 12	Yes	–	3 (TimerRA, TimerRB, TimerRE)	2(TimerRD)	8 (shared with TimerRD)	9 (shared with TimerRD, TimerRE)	7 (shared with TimerRB, TimerRD)	–	1 (shared with TimerRA)	–	1 (shared with TimerRD)	1(with automatic start, clock source protection function)	1 (UART0 (LIN))	–	1 (UART1)	1 (shared with SSU)	–	1 (shared with I²C)	1	41	–	20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21236KFP								62.5 (@16MHz)																														16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21237JFP	48K + 2K	2.5K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21237KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21238JFP	64K + 2K	3K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21238KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2123AJFP	96K + 2K	5K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2123AKFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2123CJFP	128K + 2K	6K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2123CKFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
		R8C/22	R5F21226JFP	32K	2K		–				50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21226KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21227JFP	48K	2.5K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21227KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21228JFP	64K	3K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21228KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2122AJFP	96K	5K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2122AKFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2122CJFP	128K	6K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2122CKFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
		R8C/21	R5F21216JFP	32K + 2K	2K		2K (Data Flash: program/ erase 10k times)				50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21216KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21217JFP	48K + 2K	2.5K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21217KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21218JFP	64K + 2K	3K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21218KFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2121AJFP	96K + 2K	5K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2121AKFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2121CJFP	128K + 2K	6K						50 (@20MHz)																																20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2121CKFP								62.5 (@16MHz)																																16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	

★ : New product ★★ : Under development
*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

R8C/2x Series

Device				Memory					CPU			DMA	Clock					Power Supply Voltage Detection		ADC		DAC	Timer										Watchdog Timer	Serial Interface			I²C-bus	IEBus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Application	Series	Group	Part No.	ROM(bytes)	RAM(bytes)	ROM Type*	Data flash/ E2Data flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	Power Save	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	8-bit	16-bit	Input Capture	Output Compare	PWM Output	Real Time port	Event Counter	2-Phase Encoder Input	3-Phase Inverter Control	Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I²C-bus	IEBus	SSU/ Special Serial I/O	Channels	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Body Electronics, In-Vehicle Networking	R8C/2x	R8C/20	R5F21206JFP	32K	2K	F	–	Yes (ID Code Check Function, ROM Code Protect Function)	R8C core	89	50 (@20MHz) 62.5 (@16MHz)	–	3 circuits (Main clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	–	–	2 circuits (High precision, High speed : 40MHz, Low speed : 125kHz)	Yes	Wait/ Stop	Yes	Yes(Voltage detection 2)	10-bit x 12	Yes	–	3 (TimerRA, TimerRB, TimerRE)	2 (TimerRD)	8 (shared with TimerRD)	9 (shared with TimerRD, TimerRE)	7 (shared with TimerRB, TimerRD)	–	1 (shared with TimerRA)	–	1 (shared with TimerRD)	1(with automatic start, clock source protection function)	1 (UART0 (LIN))	–	1 (UART1)	1 (shared with SSU)	–	1 (shared with I²C)	–	41	–	20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			R5F21206KFP																																							16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21207JFP	48K	2.5K																																						20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21207KFP																																								16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21208JFP	64K	3K																																						20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21208KFP																																								16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2120AJFP	96K	5K																																						20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2120AKFP																																								16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F2120CJFP	128K	6K																																						20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F2120CKFP																																								16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
		R8C/27	R5F21274JFP	16K + 2K	1K		2K (Data Flash: program/ erase 10k times)				50 (@20MHz) 62.5 (@16MHz)													1 (TimerRC)	4 (shared with TimerRC)	5 (shared with TimerRC, TimerRE)	4 (shared with TimerRB, TimerRC)				–		2 (UART0 (LIN), UART2)	–	–					25		20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	PLQP0032GB-A
			R5F21274KFP																																								16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
			R5F21276JFP	32K + 2K	1.5K																																						20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	
			R5F21276KFP																																								16MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 125	
		R8C/26	R5F21264JFP	16K	1K		–				50 (@20MHz) 62.5 (@16MHz)																																			
			R5F21264KFP																																											
			R5F21266JFP	32K	1.5K																																								
			R5F21266KFP																																										
		R8C/29	R5F21294JSP	16K + 2K	1K		2K (Data Flash: program/ erase 10k times)				50 (@20MHz) 62.5 (@16MHz)										10-bit x 4																							
			R5F21294KSP																																										
			R5F21296JSP	32K + 2K	1.5K																																								
			R5F21296KSP																																										
		R8C/28	R5F21284JSP	16K	1K		–				50 (@20MHz) 62.5 (@16MHz)																																			
			R5F21284KSP																																										
			R5F21286JSP	32K	1.5K																																								
			R5F21286KSP																																										

★ : New product ★★ : Under development
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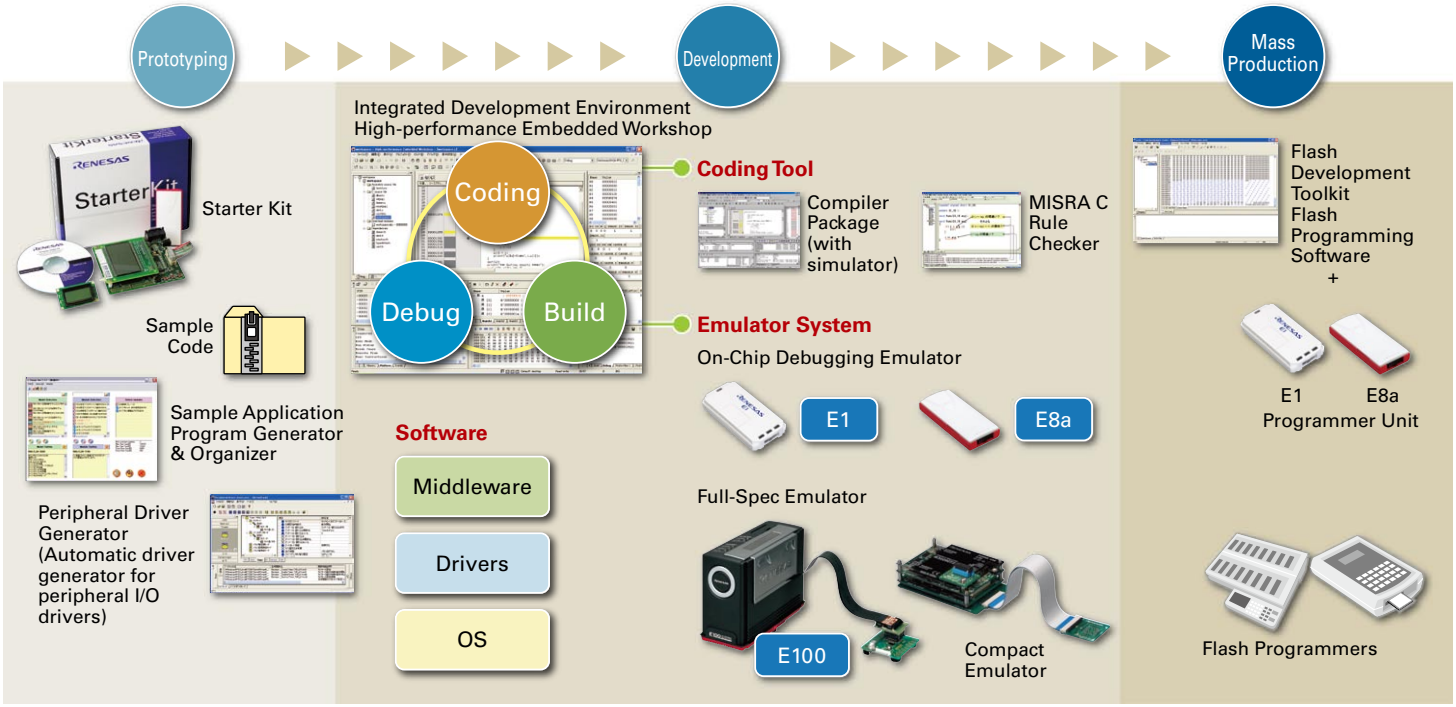
Tool Chain Overview



*A free evaluation version of the coding tool and flash programming software (Flash Development Toolkit) is provided.
*MISRA C Rule Checker is included in the complier package.

R8C Family Development Tool Lineup

MCU	Real Time OS	Software Tool	Emulator		Programming Tool
			On-Chip Debugging Emulator	Full-Spec Emulator/ Compact Emulator	Programmer*3
R8C/Mx Series	M3T-MR30/4, MR8C/4*5	C/C++ Compiler Package for R8C and M16C (R32C/M32C/M16C) Families (An integrated development environment*1, compiler and simulator are included. The emulator-debugger is bundled with the emulator.)	E8a	–	E8a*4
R8C/Lx Series			E1*2, E8a	–	E1*2 *4, E8a*4
R8C/5x Series			E1**2	E100**	E1*2 *4
R8C/3x Series			E1*2, E8a	E100	E1*2 *4, E8a*4
R8C/3xT-A Series			E1*2	–	E1*2 *4, E8a*4
R8C/2x, R8C/1x Series			E8a	Compact Emulator	E8a*4

*1. The High-performance Embedded Workshop is provided as an integrated development environment.
*2. The E20 emulator may be used as well, but the supported debugging functions are equivalent to those of the E1.
*3. This programmer is for Renesas Flash on-board microcontrollers.
*4. The E8a and E1 are usable with the Flash Development Toolkit [R0C00000FDW04R] (Free evaluation version available).
*5. M3T-MR30/4 is a multi-function OS compatible with large scale systems common to the R8C and M16C Families. MR8C/4 is a compact OS specialized for the R8C Family.
★★ : Under development
*For information about microcontrollers compatible with the emulator or emulator specifications, access the website: http://www.renesas.com/emulation_debugging
Compatible emulators may vary according to the microcontroller part number.

R8C Tool

Get up and running quickly: Starter kit

Want to start evaluating the R8C right away? The Renesas Starter Kit is just what you need. It brings together in a single package all the development tools needed for microcontroller evaluation and initial implementation. The control signals from the microcontroller are output to the expansion board interface of the CPU board, allowing connection to the target system under development for easy debugging.

Including:

- R8C On-board CPU Board
- On-Chip Debugging Emulator E8a
- Free evaluation version of the C/C++ Compiler Package (with simulator)
- Free evaluation version of the Flash Development Toolkit
- The High-performance Embedded Workshop is provided as an integrated development environment.

Renesas Starter Kit for R8C Family

Target Device		Product Name	Part Number
Series	Group		
R8C/Lx	R8C/LA3A, LA5A, LA6A, LA8A	Renesas Starter Kit for R8C/LA8A	R0K502LA8S000BE
	R8C/L3AC, L38C, L36C, L35C	Renesas Starter Kit for R8C/L3AC	R0K52L3A0S000BE
R8C/3x	R8C/3JC, 3GC, 32C, 33C, 35C, 34G, 34H, 34C	Renesas Starter Kit for R8C/35C	R0K521350S000BE
	R8C/36C, 38C, 36G, 38G, 36H, 38H	Renesas Starter Kit for R8C/38C	R0K521380S000BE
R8C/2x	R8C/20 to 23	Renesas Starter Kit for R8C/23	R0K521237S001BE
	R8C/24, 25	Renesas Starter Kit for R8C/25	R0K521256S001BE
	R8C/26, 27	Renesas Starter Kit for R8C/27	R0K521276S001BE
	R8C/2A, 2B, 2C, 2D	Renesas Starter Kit for R8C/2D	R0K5212D8S001BE
	R8C/2E, R8C/2F	Renesas Starter Kit for R8C/2F	R0K5212F4S000BE

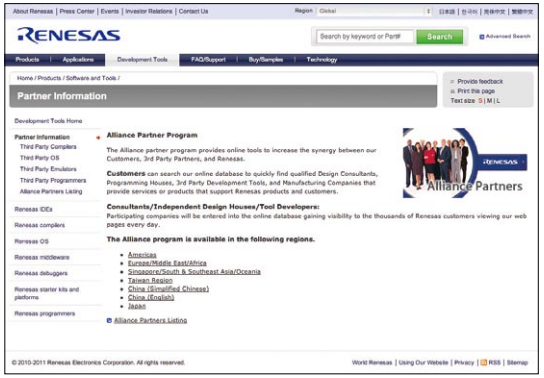
Visit this website for information about development environment products.

R8C Family Development Environment Site
http://www.renesas.com/r8c_tools

Partner Alliances

The Alliance Partner Program is a web system that provides Renesas microcontroller users with the latest information about a wide variety of solutions using partner company products and services in coordination with Renesas products.

Over 700 partner companies worldwide provide development tool products and a variety of services for Renesas microcontrollers needed by Renesas customers for product development. Renesas will continue strengthening and expanding its coordination with partner companies in the future and prepare the optimal solutions for our customers.



Strong alliances with over 700 partner companies worldwide

Click the following URL to access information about R8C Family compatible partner products and services.
http://www.renesas.com/r8c_partners

Renesas Electronics Corporation

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