

Renesas Microcomputer

# M16C Family Selection Guide

**R32C/100 Series**

Device				Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Serial Interface				Other Functions		Package									
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I <sup>2</sup> C-bus	SSU/Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package	
General-purpose	R32C/100	R32C/111	R5F6411EDFN	128K + 8K	32K	F	8K (Data Flash; program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	20 (@50MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 20	8-bit x 1	11 (TimerA, TimerB)	16 (Intelligent I/O)	19 (Intelligent I/O)	24 (TimerA, Intelligent I/O)	10 (TimerA, TimerB)	3 (TimerA) + 2 (Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	1 (Intelligent I/O)	-	5 (UART)	5 (UART)	-	49	-	82	3V, 5V Interface	50MHz/3.0 to 5.5V	-40 to 85	PLQP0064KB-A
			R5F6411FDNF	256K + 8K																	40K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F6411FNLG	256K + 8K																	40K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64114DFB	384K + 8K																	63K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64110DFB	384K + 8K																	63K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64115DFB	512K + 8K																	40K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64111DFB	512K + 8K																	63K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64111NLG	512K + 8K																	63K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64116DFB	512K + 8K																	63K	7 (UART)					7 (UART)				PTLG0100KA-A												
			R5F64112DFB	512K + 8K																	63K	7 (UART)					7 (UART)				PTLG0100KA-A												
R5F64112NLG	512K + 8K	63K	7 (UART)	7 (UART)	PTLG0100KA-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

**R32C/100 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package	
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture	Output Compare	PWM output		Event Counter	2-Phase Encoder Input	3-Phase Inverter Control							Clock Sync./Clock Async.
General-purpose	R32C/100	R32C/116	R5F64165DFB	384K + 8K	40K	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	20 (@50MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes (Low-speed: 125kHz)	Yes	-	Yes (Low voltage detection)	10-bit x 26	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	19(Intelligent I/O)	24(TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 2(Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	1(Intelligent I/O)	-	7(UART)	-	5V Tolerant Input	-40 to 85	84	PLQP0100KB-A	
			R5F64165DFD																					120	PLQP0144KA-A													
			R5F64165PFB																					84	PLQP0100KB-A													
			R5F64165PFD																					120	PLQP0144KA-A													
			R5F64166DFB																					84	PLQP0100KB-A													
			R5F64166DFD																					120	PLQP0144KA-A													
			R5F64166PFB	84	PLQP0100KB-A																																	
			R5F64166PFD	120	PLQP0144KA-A																																	
			R5F64167DFB	84	PLQP0100KB-A																																	
			R5F64167DFD	120	PLQP0144KA-A																																	
			R5F64167PFB	84	PLQP0100KB-A																																	
			R5F64167PFD	120	PLQP0144KA-A																																	
			R5F64168DFB	84	PLQP0100KB-A																																	
			R5F64168DFD	120	PLQP0144KA-A																																	
			R5F64168PFB	84	PLQP0100KB-A																																	
			R5F64168PFD	120	PLQP0144KA-A																																	
			R5F64169DFB	84	PLQP0100KB-A																																	
			R5F64169DFD	120	PLQP0144KA-A																																	
	R5F64169PFB	84	PLQP0100KB-A																																			
	R5F64169PFD	120	PLQP0144KA-A																																			
	R32C/116A	R32C/116A	R32C/116A	R5F6416JADFB	512K + 8K	96K	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes (Low-speed: 125kHz)	Yes	-	Yes (Low voltage detection)	10-bit x 26	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	19(Intelligent I/O)	24(TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 2(Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	1(Intelligent I/O)	-	7(UART)	-	5V Tolerant Input	-40 to 85	126	PLQP0144KA-A
				R5F6416JADFE																					158	PLQP0176KB-A												
				R5F6416JAPFD																					126	PLQP0144KA-A												
				R5F6416JAPFE																					158	PLQP0176KB-A												
				R5F6416KADFB																					126	PLQP0144KA-A												
				R5F6416KADFE																					158	PLQP0176KB-A												
				R5F6416KAPFD	126	PLQP0144KA-A																																
				R5F6416KAPFE	158	PLQP0176KB-A																																
				R5F6416LADFB	126	PLQP0144KA-A																																
				R5F6416LADFE	158	PLQP0176KB-A																																
				R5F6416LAPFD	126	PLQP0144KA-A																																
				R5F6416LAPFE	158	PLQP0176KB-A																																
				R5F6416MADFB	126	PLQP0144KA-A																																
				R5F6416MADFE	158	PLQP0176KB-A																																
				R5F6416MAPFD	126	PLQP0144KA-A																																
				R5F6416MAPFE	158	PLQP0176KB-A																																

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**R32C/100 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package			
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
General-purpose	R32C/100	R32C/117	R5F6417BDFB	128K + 8K	20K	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes (Low speed: 125kHz)	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	19(Intelligent I/O)	24(TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 2(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	1(Intelligent I/O)	-	8(UART, Multi master PC)	7 (UART)	1	5V Tolerant Input	-40 to 85	50MHz/ 3.0 to 5.5V	R5F6417ADFB	256K + 8K	84	PLQP0100KB-A
			R5F64175DFB	384K + 8K																					120	PLQP0144KA-A																
			R5F64175PFB																						84	PLQP0100KB-A																
			R5F64175PFD	512K + 8K																					120	PLQP0144KA-A																
			R5F64176DFB																						84	PLQP0100KB-A																
			R5F64176DFD	640K + 8K																					120	PLQP0144KA-A																
			R5F64176PFB																						84	PLQP0100KB-A																
			R5F64176PFD	768K + 8K																					120	PLQP0144KA-A																
			R5F64177DFB																						84	PLQP0100KB-A																
			R5F64177PFB	1024K + 8K																					120	PLQP0144KA-A																
			R5F64177PFD																						84	PLQP0100KB-A																
			R5F64178DFB	63K																					120	PLQP0144KA-A																
			R5F64178DFD																						84	PLQP0100KB-A																
			R5F64178PFB	1024K + 8K																					120	PLQP0144KA-A																
			R5F64178PFD																						84	PLQP0100KB-A																
			R5F64179DFB	96K																					120	PLQP0100KB-A																
			R5F64179DFD																						84	PLQP0144KA-A																
			R5F64179PFB	1024K + 8K																					120	PLQP0100KB-A																
	R5F64179PFD	84	PLQP0144KA-A																																							
	R5F6417ADFE	512K + 8K	126	PLQP0176KB-A																																						
	R5F6417JADFE		640K + 8K	158	PLQP0144KA-A																																					
	R5F6417JAPFD	96K		126	PLQP0176KB-A																																					
	R5F6417JAPFE		1024K + 8K	158	PLQP0144KA-A																																					
	R5F6417KADFD	1024K + 8K		126	PLQP0144KA-A																																					
	R5F6417KADFE		96K	158	PLQP0176KB-A																																					
	R5F6417KAPFD	1024K + 8K		126	PLQP0144KA-A																																					
	R5F6417KAPFE		96K	158	PLQP0176KB-A																																					
	R5F6417LADFD	768K + 8K		126	PLQP0144KA-A																																					
	R5F6417LADFE		96K	158	PLQP0176KB-A																																					
	R5F6417LAPFD	1024K + 8K		126	PLQP0144KA-A																																					
	R5F6417LAPFE		96K	158	PLQP0176KB-A																																					
	R5F6417MADFD	1024K + 8K		126	PLQP0144KA-A																																					
	R5F6417MADFE		96K	158	PLQP0176KB-A																																					
	R5F6417MAPFD	1024K + 8K		126	PLQP0144KA-A																																					
	R5F6417MAPFE		96K	158	PLQP0176KB-A																																					

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**R32C/100 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer							Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package						
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	R32C/100	R32C/118	R5F64185DFB	384K + 8K	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	20 (@50MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes (Low speed: 125kHz)	Yes	-	Yes (Low voltage detection)	Yes	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	19(Intelligent I/O)	24(TimerA Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 2(Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	1(Intelligent I/O)	-	8(UART, Multi master PC)	7(UART)	2	5V Tolerant Input	84	50MHz/ 3.0 to 5.5V	-40 to 85	PLQP0100KB-A							
			R5F64185DFD																					24(Intelligent I/O)	29(TimerA Intelligent I/O)														84	PLQP0144KA-A						
			R5F64185PFB																					19(Intelligent I/O)	24(TimerA Intelligent I/O)														84	PLQP0100KB-A						
			R5F64185PFD																					24(Intelligent I/O)	29(TimerA Intelligent I/O)														120	PLQP0144KA-A						
			R5F64186HDFB																					15.625 (@64MHz)	19(Intelligent I/O)														24(TimerA Intelligent I/O)	84	PLQP0100KB-A					
			R5F64186HDFD																					24(Intelligent I/O)	29(TimerA Intelligent I/O)														120	PLQP0144KA-A						
			R5F64186PDFB	512K + 8K																				48K	20 (@50MHz)														19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A				
			R5F64186PDFD																																								24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A
			R5F64187DFB																																								19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A
			R5F64187DFD																																								24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A
			R5F64187PFB																																								19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A
			R5F64187PFD																																								24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A
			R5F64188DFB	768K + 8K																				63K	15.625 (@64MHz)														19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A				
			R5F64188DFD																																								24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A
			R5F64188PFB																																								19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A
			R5F64188PFD																																								24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A
			R5F64189HDFB																																								19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A
			R5F64189HDFD																																								24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A
			R5F64189DFB	1024K + 8K																				20 (@50MHz)	19(Intelligent I/O)														24(TimerA Intelligent I/O)	84	PLQP0100KB-A					
			R5F64189DFD																																							24(Intelligent I/O)	29(TimerA Intelligent I/O)	120	PLQP0144KA-A	
			R5F64189PFB																																							19(Intelligent I/O)	24(TimerA Intelligent I/O)	84	PLQP0100KB-A	
	R5F64189PFD	24(Intelligent I/O)	29(TimerA Intelligent I/O)		120	PLQP0144KA-A																																								
	R5F64189JADFB	512K + 8K	96K		15.625 (@64MHz)	19(Intelligent I/O)	24(TimerA Intelligent I/O)	126	PLQP0176KB-A																																					
	R5F64189JADFE									24(Intelligent I/O)	29(TimerA Intelligent I/O)	158	PLQP0144KA-A																																	
	R5F64189JAPFD			19(Intelligent I/O)						24(TimerA Intelligent I/O)	126	PLQP0176KB-A																																		
	R5F64189JAPFE			24(Intelligent I/O)						29(TimerA Intelligent I/O)	158	PLQP0144KA-A																																		
	R5F6418KADFB			640K + 8K						19(Intelligent I/O)	24(TimerA Intelligent I/O)	126	PLQP0144KA-A																																	
	R5F6418KADFE													24(Intelligent I/O)	29(TimerA Intelligent I/O)	158	PLQP0176KB-A																													
	R5F6418KAPFD	19(Intelligent I/O)	24(TimerA Intelligent I/O)		126	PLQP0144KA-A																																								
	R5F6418KAPFE	24(Intelligent I/O)	29(TimerA Intelligent I/O)		158	PLQP0176KB-A																																								
	R5F6418LADFB	768K + 8K	19(Intelligent I/O)		24(TimerA Intelligent I/O)	126	PLQP0144KA-A																																							
	R5F6418LADFE							24(Intelligent I/O)	29(TimerA Intelligent I/O)					158	PLQP0176KB-A																															
	R5F6418LAPFD			19(Intelligent I/O)				24(TimerA Intelligent I/O)	126	PLQP0144KA-A																																				
	R5F6418LAPFE			24(Intelligent I/O)				29(TimerA Intelligent I/O)	158	PLQP0176KB-A																																				
	R5F6418MADFB			1024K + 8K				19(Intelligent I/O)	24(TimerA Intelligent I/O)	126	PLQP0144KA-A																																			
	R5F6418MADFE											24(Intelligent I/O)	29(TimerA Intelligent I/O)	158	PLQP0176KB-A																															
	R5F6418MAPFD	19(Intelligent I/O)	24(TimerA Intelligent I/O)		126	PLQP0144KA-A																																								
	R5F6418MAPFE	24(Intelligent I/O)	29(TimerA Intelligent I/O)		158	PLQP0176KB-A																																								
	R5F6418MAJADFB	1024K + 8K	19(Intelligent I/O)		24(TimerA Intelligent I/O)	126	PLQP0144KA-A																																							
	R5F6418MAJADFE											24(Intelligent I/O)	29(TimerA Intelligent I/O)	158	PLQP0176KB-A																															
	R5F6418MAJAPFD			19(Intelligent I/O)				24(TimerA Intelligent I/O)	126	PLQP0144KA-A																																				
	R5F6418MAJAPFE			24(Intelligent I/O)				29(TimerA Intelligent I/O)	158	PLQP0176KB-A																																				

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M32C/80 Series

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer							Watchdog Timer	Serial Interface			i <sup>2</sup> C-bus	SSU/Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																																															
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	CAN																																										
General-purpose	M32C/80	M32C/8B	M308B6SGP	-	32K	L	-	M32C/80 core	108	31.3 (@32MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 10	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	3(TimerA)	-	-	-	5(UART)	45	3V, 5V Interface	32MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PLOP0100KB-A																																																	
			M308B8SGP	-		81	PLOP0144KA-A																																																																														
		M308B6FGGP	256K + 8K	F	8K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 26													10-bit x 34												10-bit x 10				10-bit x 18	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	85	PLOP0100KB-A																										
		M308B8FGGP	-	L	-	10-bit x 34	10-bit x 10													10-bit x 18												10-bit x 26				10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	85	PLOP0144KA-A																											
		M32C/8A	M308A0SGP	-	12K	L	-													-												M32C/80 core				108	31.3 (@32MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	Yes (Low voltage detection)	10-bit x 18	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	3(TimerA)	-	-	-	5(UART)	45	3V, 5V Interface	32MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PLOP0100KB-A																							
		M308A3SGP																																												-												24K				-	10-bit x 10	10-bit x 18	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34
		M308A5SGP	-	L	-	10-bit x 18	10-bit x 26													10-bit x 34																										10-bit x 26												10-bit x 34				10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	85	PLOP0100KB-A	
		M30873MH-XXXGP	384K	M	-	10-bit x 26	10-bit x 34													10-bit x 26																										10-bit x 34												10-bit x 26				10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	85	PLOP0100KB-A	
		M30875MH-XXXGP	24K	M	-	10-bit x 26	10-bit x 34													10-bit x 26																										10-bit x 34												10-bit x 26				10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	85	PLOP0144KA-A	
		M30873FHGP	384K + 4K	F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 26													10-bit x 34																										10-bit x 26												10-bit x 34				10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	85	PLOP0100KB-A	
		M30875FHGP	384K + 4K	F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 26													10-bit x 34																										10-bit x 26												10-bit x 34				10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	85	PLOP0144KA-A
		M30876MJ-XXXGP	512K	M	-	10-bit x 26	10-bit x 34													10-bit x 26																										10-bit x 34												10-bit x 26				10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	85	PRQP0100JB-A
		M30876MJ-XXXGP	512K	M	-	10-bit x 26	10-bit x 34													10-bit x 26																										10-bit x 34												10-bit x 26				10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	85	PLOP0100KB-A
		M30878MJ-XXXGP	512K	M	-	10-bit x 26	10-bit x 34													10-bit x 26																										10-bit x 34												10-bit x 26				10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	85	PLOP0144KA-A
	M30876FJGP	512K + 4K	M	-	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34			85	PLOP0100KB-A																																																		
	M30878FJGP	512K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34			10-bit x 34	85											PLOP0144KA-A																																							
	M30879FKGP	768K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34			10-bit x 34	85											PLOP0100KB-A																																							
	M3087BFKGP	768K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34			10-bit x 34	85											PLOP0144KA-A																																							
	M30879FLGP	1M + 4K	M	-	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	85		PRQP0100JB-A																																																			
	M3087BFJGP	768K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34		85	PLOP0100KB-A																																																		
M30879FLGP	1M + 4K	M	-	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	10-bit x 34	85	PLOP0100KB-A																																																				
M3087BFJGP	768K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 26	10-bit x 34	10-bit x 34	10-bit x 34	10-bit x 34	85	PLOP0144KA-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

**M32C/80 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer								Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTCC/DMAII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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															
General-purpose	M32C/80	M32C/87 M32C/87A	M30873MHA-XXXGP	384K	M	-	-	M32C80 core	108	31.3 (@32MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	Yes	8-bit x 2	11 (TimerA, TimerB)	8 (Intelligent I/O)	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 1(Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	7(UART, Intelligent I/O)	2(Intelligent I/O)	-	5 (UART)	5 (UART)	1	85	3V, 5V Interface	4.2 to 5.5V, 24MHz/-3.0 to 5.5V	-20 to 85, -40 to 85	PQP0100KB-A																	
			M30875MHA-XXXGP																					121	PQP0100KB-A																																
			M30873FHAGP	384K + 4K	F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)																	10-bit x 26	10-bit x 34					10(Intelligent I/O)										15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	121	PQP0100KB-A										
			M30875FHAGP																											85										PQP0144KA-A																	
			M30876MJA-XXXFP	512K	M	-	-																	10-bit x 26	10-bit x 34					10(Intelligent I/O)										15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A										
			M30876MJA-XXXGP																											121										PQP0100KB-A																	
			M30878MJA-XXXGP	31K	M	-	-																	10-bit x 26	10-bit x 34					10(Intelligent I/O)										15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A										
			M30876FJAGP																											121										PQP0144KA-A																	
			M30878FJAGP																											512K + 4K										F			4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)			10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	121	PQP0100KB-A
			M30878FJAGP																											85																			PQP0144KA-A								
			M30879FKAGP	768K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)																	10-bit x 26	10-bit x 34					10(Intelligent I/O)										15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A										
			M3087BFGP																											121										PQP0144KA-A																	
			M30879FLAP	1M + 4K	M	-	-																	10-bit x 26	10-bit x 34					10(Intelligent I/O)										15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A										
			M30879FLAGP																											121										PQP0100KB-A																	
			M3087BFLAGP																											85										PQP0100KB-A																	
			M30873MHB-XXXGP	384K	M	-	-																	10-bit x 26	10-bit x 34					10(Intelligent I/O)										15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A										
	M30875MHB-XXXGP	121	PQP0144KA-A																																																						
	M30873FHBGP	384K + 4K	F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A																																									
	M30875FHBGP							121	PQP0144KA-A																																																
	M30876MJB-XXXFP	512K	M	-	-	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A																																									
	M30876MJB-XXXGP							121	PQP0100KB-A																																																
	M30878MJB-XXXGP	31K	M	-	-	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A																																									
	M30876FJBGP							121	PQP0144KA-A																																																
	M30878FJBGP							512K + 4K	F			4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)			10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	121	PQP0100KB-A																															
	M30878FJBGP							85										PQP0144KA-A																																							
	M30879FKBGP	768K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A																																									
	M3087BFBGP							121	PQP0144KA-A																																																
	M30879FLBGP	1M + 4K	M	-	-	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	10-bit x 26	10-bit x 34	10(Intelligent I/O)	15(TimerA, Intelligent I/O)	7(UART, Intelligent I/O)	85	PQP0100KB-A																																									
	M30879FLBGP							121	PQP0100KB-A																																																
	M3087BFLBGP							85	PQP0100KB-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

**M32C/80 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer							Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports CMOS I/O (Numbers)	Other Functions Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package																																																																																																																																																			
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTCC/DMAII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	SSU/ Special Serial I/O	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package																																																																																																																																													
General-purpose	M32C/80	M32C/85	M30853MW-XXXXFP	320K	M	-	-	M32C80 core	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																																																																																						
			M30853MW-XXXXGP																	10-bit x 26																	PRQP0100KB-A																																																																																																																																																						
			M30855MW-XXXXGP																	10-bit x 34																	PLOP0144KA-A																																																																																																																																																						
			M30853FWFP	320K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)													10-bit x 26																	PRQP0100JB-A																																																																																																																																																						
			M30853FWGP																	10-bit x 34																	PLOP0100KB-A																																																																																																																																																						
			M30855FWGP																	10-bit x 34																	PLOP0144KA-A																																																																																																																																																						
			M30853FHFP	384K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)													10-bit x 26																	PRQP0100JB-A																																																																																																																																																						
			M30853FHGP																	10-bit x 34																	PLOP0100KB-A																																																																																																																																																						
			M30855FHGP																	10-bit x 34																	PLOP0144KA-A																																																																																																																																																						
		M30853FJFP	512K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 26													PRQP0100JB-A																																																																																																																																																																							
		M30853FJGP					10-bit x 26													PLOP0100KB-A																																																																																																																																																																							
		M30855FJGP					10-bit x 26													PLOP0144KA-A																																																																																																																																																																							
		M30840SFP	-	L	-	-	M32C/84													M																	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 10	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																																																									
		M30840SGP																																															10-bit x 10																	PLOP0100KB-A																																																																																																																									
		M30842SGP																																															10-bit x 18																	PLOP0144KA-A																																																																																																																									
		M30840MC-XXXXFP	128K	M	-	-																																											M32C/84																	M	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																											
		M30840MC-XXXXGP																																																																													10-bit x 26																	PLOP0100KB-A																																																																																											
		M30842MC-XXXXGP																																																																													10-bit x 34																	PLOP0144KA-A																																																																																											
	M30843MW-XXXXFP	320K	M	-	-	M32C/84		M	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-		Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface																																											32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V																	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																										
	M30843MW-XXXXGP																					10-bit x 26																																																																											PLOP0100KB-A																																																																																										
	M30845MW-XXXXGP																					10-bit x 34																																																																											PLOP0144KA-A																																																																																										
	M30843FWGP	320K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)																	M32C/84																																																																											M	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0100KB-A																																																												
	M30845FWGP																																																																																																													10-bit x 34																	PLOP0144KA-A																																																												
	M30843FHFP																																																																																																													10-bit x 26																	PLOP0100KB-A																																																												
	M30843FHGP	384K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)																																																																																																									M32C/84																	M	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 34	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0144KA-A																														
	M30845FHGP																																																																																																																																											10-bit x 34																	PLOP0144KA-A																														
	M30843FJFP																																																																																																																																											10-bit x 26																	PLOP0100KB-A																														
	M30843FJGP	512K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)																																																																																																																																							M32C/84																	M	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11(TimerA, TimerB)	8(Interrupt I/O)	8(Interrupt I/O)	13(TimerA, Intelligent I/O)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	-	5(UART)	5(UART)	2	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A
	M30845FJGP																																																																																																																																																																									10-bit x 26																	PLOP0100KB-A
	M30833FJFP																																																																																																																																																																									10-bit x 34 (2 circuits)																	PLOP0144KA-A
	M30833FJGP	512K	31K	-	-		M32C/83													M																	10K	108	31.3 (6.32MHz)	4	DMAII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)		10-bit x 26 (2 circuits)	Yes	8-bit x 2	11(TimerA, TimerB)	5(Interrupt I/O)	10(Interrupt I/O)	15(TimerA, Intelligent I/O)	3(TimerA) + 2(Intelligent I/O)	-	-	7(UART, Intelligent I/O)	2 (Intelligent I/O)	-	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 20MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85																																																																																																									PRQP0100JB-A																	
	M30835FJGP																																																	10-bit x 34 (2 circuits)																																																																																																																								PLOP0100KB-A																	
	M30800SAFP																																																	10-bit x 26 (2 circuits)																																																																																																																								PLOP0144KA-A																	
	M30800SAFP-BL	-	8K	L	-																																												M32C/80	M																8K	L	-	-	-	-	-	-	-	-	-	Yes (Low voltage detection)	10-bit x 10		-	-	5(TimerA)	-	-	3(TimerA)	-	5(UART)	-	-	3V, 5V Interface	32MHz/ 4.2 to 5.5V, 24MHz/ 3.0 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																														
	M30800SAGP-BL																																																																													10-bit x 10															PLOP0100KB-A																																																																																														
	M30800SAGP																																																																													10-bit x 10															PLOP0144KA-A																																																																																														
M30800SAGP-BL	10-bit x 10	PLOP0100KB-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



**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer					Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(C)	Package					
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
General-purpose	M16C/60	M16C/60C	R5F36506CNFB R5F36506CDFB R5F36506CDFA	128K + 24K	12K	F (Data Flash: program/erase 10k times)	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/ 2.7 to 5.5V	-20 to 85	PLQP0100KB-A
			-40 to 85	PRQP0100JD-B																																					
			-20 to 85	PLQP0128KB-A																																					
			-40 to 85	PLQP0100KB-A																																					
			-20 to 85	PRQP0100JD-B																																					
			-40 to 85	PLQP0128KB-A																																					
			-20 to 85	PLQP0100KB-A																																					
			-40 to 85	PRQP0100JD-B																																					
			-20 to 85	PLQP0128KB-A																																					
			-40 to 85	PLQP0100KB-A																																					
			-20 to 85	PRQP0100JD-B																																					
			-20 to 85	PLQP0128KB-A																																					
			-40 to 85	PRQP0100JD-B																																					
			-20 to 85	PLQP0128KB-A																																					
			-40 to 85	PRQP0100JD-B																																					

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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package																																																																																																													
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	M16C/60	M16C/64C*	R5F36406CNFB	128K + 24K	12K	F	8K (Data Flash; program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	40.0 (@25MHz)	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes (@2.700kHz)	Yes	Yes (Low speed: 125kHz)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/ 2.7 to 5.5V	-20 to 85	PLQP0100KB-A																																																																																																									
			R5F36406CDFA																																						-40 to 85	PRQP0100JD-B																																																																																																									
			R5F36406CNFA																																						-20 to 85																																																																																																										
			R5F36406CDFB	256K + 24K	20K																																				F	8K (Data Flash; program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	40.0 (@25MHz)	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes (@2.700kHz)	Yes	Yes (Low speed: 125kHz)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/ 2.7 to 5.5V	-40 to 85	PLQP0100KB-A																																																																						
			R5F36406CDFB																																																																									-20 to 85																																																																							
			R5F36406CNFB																																																																									-40 to 85	PRQP0100JD-B																																																																						
			R5F36406CDFA	384K + 24K	31K																																																																							F	8K (Data Flash; program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	40.0 (@25MHz)	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes (@2.700kHz)	Yes	Yes (Low speed: 125kHz)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/ 2.7 to 5.5V	-20 to 85	PLQP0100KB-A																																			
			R5F36406CNFB																																																																																																												-40 to 85	PRQP0100JD-B																																			
			R5F36406CNFA																																																																																																												-20 to 85																																				
			R5F3640KCNFB	384K + 24K	31K																																																																																																										F	8K (Data Flash; program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	40.0 (@25MHz)	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes (@2.700kHz)	Yes	Yes (Low speed: 125kHz)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/ 2.7 to 5.5V	-40 to 85	PLQP0100KB-A
			R5F3640KCNFA																																																																																																																																															-20 to 85	PRQP0100JD-B
			R5F3640KCDFB																																																																																																																																															-40 to 85	PRQP0100JD-B
R5F3640KCDFA	512K + 24K	31K	F	8K (Data Flash; program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	40.0 (@25MHz)	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes (@2.700kHz)	Yes	Yes (Low speed: 125kHz)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/ 2.7 to 5.5V	-20 to 85	PLQP0100KB-A																																																																																																												
R5F3640MCNFB																																						-40 to 85	PRQP0100JD-B																																																																																																												
R5F3640MCNFA																																						-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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSI/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																																																																																																		
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	M16C/60	M16C/65	R5F36506DFA	128K + 24K	12K	F	8K (Data Flash: program/erase 10k times)	Yes(ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master IC, UART)	6 (UART)	-	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/2.7 to 5.5V	-40 to 85	PROQP0100JD-B																																																																																																			
			R5F36506DFB																																		-20 to 85	PLQP0100KB-A																																																																																																			
			R5F36506NFA																																		-40 to 85	PROQP0100JD-B																																																																																																			
			R5F36506NFB																																		-20 to 85	PLQP0100KB-A																																																																																																			
			R5F3650EDFA																																		256K + 24K	20K	F	8K (Data Flash: program/erase 10k times)	Yes(ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master IC, UART)	6 (UART)	-	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/2.7 to 5.5V	-40 to 85	PROQP0100JD-B																																																																		
			R5F3650EDFB																																																																			-20 to 85	PLQP0100KB-A																																																																		
			R5F3650ENFA																																																																			-40 to 85	PROQP0100JD-B																																																																		
			R5F3650ENFB																																																																			-20 to 85	PLQP0100KB-A																																																																		
			R5F3651EDFC																																																																			384K + 24K	31K	F	8K (Data Flash: program/erase 10k times)	Yes(ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master IC, UART)	6 (UART)	-	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/2.7 to 5.5V	-40 to 85	PROQP0100JD-B																																	
			R5F3651ENFC																																																																																																				-20 to 85	PLQP0100KB-A																																	
			R5F3650KDFA																																																																																																				-40 to 85	PROQP0100JD-B																																	
			R5F3650KDFB																																																																																																				-20 to 85	PLQP0100KB-A																																	
			R5F3650KNFA																																																																																																				-40 to 85	PROQP0100JD-B																																	
			R5F3650KNFB																																																																																																				-20 to 85	PLQP0100KB-A																																	
			R5F3651KDFC																																																																																																				-40 to 85	PROQP0100JD-B																																	
			R5F3651KNFC																																																																																																				-20 to 85	PLQP0100KB-A																																	
			R5F3650MDFA																																																																																																				512K + 24K	47K	F	8K (Data Flash: program/erase 10k times)	Yes(ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master IC, UART)	6 (UART)	-	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/2.7 to 5.5V	-40 to 85	PROQP0100JD-B
			R5F3650MDFB																																																																																																																																					-20 to 85	PLQP0100KB-A
			R5F3650MNFA																																																																																																																																					-40 to 85	PROQP0100JD-B
			R5F3650MNFB																																																																																																																																					-20 to 85	PLQP0100KB-A
			R5F3651MDFC																																																																																																																																					-40 to 85	PROQP0100JD-B
			R5F3651MNFC																																																																																																																																					-20 to 85	PLQP0100KB-A
			R5F3650NDFA																																																																																																																																					-40 to 85	PROQP0100JD-B
			R5F3650NDFB																																																																																																																																					-20 to 85	PLQP0100KB-A
			R5F3650NNFA																																																																																																																																					-40 to 85	PROQP0100JD-B
			R5F3650NNFB																																																																																																																																					-20 to 85	PLQP0100KB-A
			R5F3651NDFC																																																																																																																																					-40 to 85	PROQP0100JD-B
			R5F3651NNFC																																																																																																																																					-20 to 85	PLQP0100KB-A
R5F3650RDFA	640K + 24K	47K	F	8K (Data Flash: program/erase 10k times)	Yes(ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master IC, UART)	6 (UART)	-	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/2.7 to 5.5V	-40 to 85	PROQP0100JD-B																																																																																																						
R5F3650RDFB																																		-20 to 85	PLQP0100KB-A																																																																																																						
R5F3650RNFA																																		-40 to 85	PROQP0100JD-B																																																																																																						
R5F3650RNFB																																		-20 to 85	PLQP0100KB-A																																																																																																						
R5F3651RDFC																																		-40 to 85	PROQP0100JD-B																																																																																																						
R5F3651RNFC																																		-20 to 85	PLQP0100KB-A																																																																																																						
R5F3650TDFA																																		768K + 24K	47K	F	8K (Data Flash: program/erase 10k times)	Yes(ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	7(TimerA, PWM Function)	11 (TimerA, TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART)	2(SI/O)	-	7 (Multi master IC, UART)	6 (UART)	-	3V, 5V Interface Remote control signal receiver CEC Function	32MHz/2.7 to 5.5V	-40 to 85	PROQP0100JD-B																																																																					
R5F3650TDFB																																																																			-20 to 85	PLQP0100KB-A																																																																					
R5F3650TNFA																																																																			-40 to 85	PROQP0100JD-B																																																																					
R5F3650TNFB																																																																			-20 to 85	PLQP0100KB-A																																																																					
R5F3651TDFC																																																																			-40 to 85	PROQP0100JD-B																																																																					
R5F3651TNFC																																																																			-20 to 85	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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA	Clock		Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			CAN	I/O Ports	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																																																																																																																																								
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMAII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold		Resolution x Channels	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	I²C-bus	SSI/Special Serial I/O	Channels	CMOS I/O (Numbers)	Others																																																																																																																													
General-purpose	M16C/64		R5F364A6DFA	128K + 24K	12K	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)					1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)		6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/2.7 to 5.5V	-40 to 85	PROP0100JD-B																																																																																																																																		
			R5F364A6DFB																																			PLQP0100KB-A																																																																																																																																		
			R5F364A6NFA																																			PRQP0100JD-B																																																																																																																																		
			R5F364A6NFB	PLQP0100KB-A																																																																																																																																																																				
			R5F364AEDFA	256K + 24K	20K																																	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/2.7 to 5.5V	-40 to 85	PRQP0100JD-B																																																																																																		
			R5F364AEDFB																																																																			PLQP0100KB-A																																																																																																		
			R5F364AENFA																																																																			PRQP0100JD-B																																																																																																		
			R5F364AENFB	PLQP0100KB-A																																																																																																																																																																				
			R5F364AKNFA	384K + 24K	31K																																																																	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/2.7 to 5.5V	-40 to 85	PRQP0100JD-B																																																																		
			R5F364AKDFB																																																																																																			PLQP0100KB-A																																																																		
			R5F364AMDFB																																																																																																			PRQP0100JD-B																																																																		
			R5F364AMNFA	512K + 24K	31K																																																																																																	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	25MHz/2.7 to 5.5V	-40 to 85	PRQP0100JD-B																																		
			R5F364AMNFB																																																																																																																																			PLQP0100KB-A																																		
			R5F364AMNFB																																																																																																																																			PLQP0100KB-A																																		
	R5F363A6DFA	128K + 24K	12K	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							2 (S/I/O)	1 (UART)	5 (Multi master I²C, UART)	3 (UART)	68	Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V	-40 to 85	PRQP0100JD-B																																																																																																																																				
	R5F363A6DFB																																			PLQP0100KB-A																																																																																																																																				
	R5F363A6NFA																																			PRQP0100JD-B																																																																																																																																				
	R5F363A6NFB	PLQP0100KB-A																																																																																																																																																																						
	R5F363A6NGL	256K + 24K	20K																																	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V	-40 to 85	PRQP0100JD-B																																																																																																				
	R5F363A6DFE																																																																			PLQP0100KB-A																																																																																																				
	R5F363B6DFE																																																																			PLQP0100KB-A																																																																																																				
	R5F363B6NFE	384K + 24K	31K																																																																	F	8K (Data Flash: program/erase 10k times)																																																																	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V	-40 to 85	PRQP0100JD-B				
	R5F363B6DFE																																																																					PLQP0100KB-A																																																																																																		
	R5F363AEDFA																																																																					PLQP0100JD-B																																																																																																		
	R5F363AEDFB	PLQP0100KB-A																																																																																																																																																																						
	R5F363AENFA	512K + 24K	31K																																																																			F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V	-40 to 85	PRQP0100JD-B																																																																		
	R5F363AENFB																																																																																																					PLQP0100KB-A																																																																		
R5F363AENGL	PTLG0100KA-A																																																																																																																																																																							
R5F363BEDFE	384K + 24K	31K	F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)							3 (UART)	1 (UART)	5 (Multi master I²C, UART)	3 (UART)	68	Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V	-40 to 85	PRQP0100JD-B																																																																																																																																					
R5F363BEDFE																																			PLQP0080KB-A																																																																																																																																					
R5F363BENFE																																			PLQP0100JD-B																																																																																																																																					
R5F363AKDFA	512K + 24K	31K																																	F																																																																			8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)								6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V	-40 to 85																															PRQP0100JD-B				
R5F363AKDFB																																				PLQP0100KB-A																																																																																																																																				
R5F363AKNFA																																				PLQP0100KB-A																																																																																																																																				
R5F363AKNFB	512K + 24K	31K																																		F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)								6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V																																																																																																	-40 to 85	PRQP0100JD-B			
R5F363AKDFE																																																																				PTLG0100KA-A																																																																																																				
R5F363AKNGL																																																																				PLQP0100KB-A																																																																																																				
R5F363AMDFA	512K + 24K	31K																																																																		F	8K (Data Flash: program/erase 10k times)																																																																	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)								6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function	20MHz/5MHz/1.8 to 5.5V		-40 to 85	PRQP0100JD-B		
R5F363AMDFA																																																																																																																																																																						PLQP0100KB-A		
R5F363AMDFA																																																																						PRQP0100JD-B																																																																																																		
R5F363AMNFA	512K + 24K	31K																																																																				F	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes	Yes (Low speed: 125kHz)		Yes	Yes	Yes (Voltage detection 3)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)									6 (UART)	-	7 (Multi master I²C, UART)	6 (UART)	85	3V, 5V Interface Remote control signal receiver CEC Function																																																																	20MHz/5MHz/1.8 to 5.5V	-40 to 85	PRQP0100JD-B
R5F363AMNFB																																																																																																																																																																								PLQP0100KB-A
R5F363AMNFB			PLQP0100KB-A																																																																																																																																																																					
R5F363AMNGL	PTLG0100KA-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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer					Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSI/ Special Serial I/O Channels	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package																																											
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ E2Data Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package																																
General-purpose	M16C/60	M16C/62P	M30622SPFP	-	L	-	-	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5 (TimerA)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3 (UART)	2 (SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V/ 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																								
			M30622SPGP																																				PLQP0100KB-A																																								
			M30620SPFP																																				PRQP0100JB-A																																								
			M30624SPFP																																				PLQP0100KB-A																																								
			M30624SPGP																																				PRQP0100JB-A																																								
			M30626SPFP																																				PLQP0100KB-A																																								
			M30626SPGP																																				PRQP0100JB-A																																								
			M30622MR-XXXXFP																																				48K	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PLQP0100KB-A					
			M30622MR-XXXXFP																																																																							PLQP0100KB-A					
			M30622MR-XXXXGP																																																																							PLQP0100KB-A					
			M30623MR-XXXXFP																																																																							PLQP0100KB-A					
			M30623MR-XXXXFP																																																																							PRQP0100JB-A					
			M30623MR-XXXXGP	PRQP0100JB-A																																																																											
			M30622F8PFP	64K + 4K	F	4K (Data Flash)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PRQP0100JB-A																																								
			M30622F8PGP																																				PLQP0100KB-A																																								
			M30623F8PGP																																				PRQP0080JA-A																																								
			M30622MR-XXXXFP	96K	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PRQP0100JB-A																																						
			M30622MR-XXXXGP																																						PLQP0100KB-A																																						
			M30620MCP-XXXXFP																																						128K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PRQP0080JA-A	
			M30620MCP-XXXXFP																																																																											PRQP0100JB-A	
			M30620MCP-XXXXGP																																																																											PLQP0100KB-A	
			M30621MCP-XXXXFP																																																																											PRQP0080JA-A	
			M30620FCPFP																																																																											PRQP0100JB-A	
			M30620FCPGP																																																																											PLQP0100KB-A	
			M30621FCPFP																																						PRQP0100JB-A																																						
			M30621FCPGP																																						PLQP0080JA-A																																						
			M30622MEP-XXXXFP																																						128K + 4K	F	4K (Data Flash)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PRQP0100JB-A
			M30622MEP-XXXXFP																																																																												PRQP0100JB-A
			M30622MEP-XXXXGP	PLQP0100KB-A																																																																											
			M30623MEP-XXXXFP	PRQP0100JB-A																																																																											
			M30623MEP-XXXXFP	PLQP0128KB-A																																																																											
			M30623MEP-XXXXGP	PRQP0100JB-A																																																																											
			M30622MR-XXXXFP	192K	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PRQP0100JB-A																																				
M30622MR-XXXXFP	PRQP0100JB-A																																																																														
M30622MR-XXXXGP	PLQP0100KB-A																																																																														
M30623MR-XXXXFP	PLQP0128KB-A																																																																														
M30623MR-XXXXFP	PRQP0100JB-A																																																																														
M30623MR-XXXXGP	PRQP0128KB-A																																																																														
M30624MR-XXXXFP	256K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PRQP0100JB-A																																				
M30624MR-XXXXFP																																											PRQP0100JB-A																																				
M30624MR-XXXXGP																																											PLQP0100KB-A																																				
M30625MR-XXXXFP	20K	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PLQP0128KB-A																																
M30625MR-XXXXFP	PRQP0100JB-A																																																																														
M30625MR-XXXXGP	PLQP0128KB-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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock			Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	Special Serial I/O Channels	CAN	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package																																																																																						
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	SSU/ Special Serial I/O Channels	CMOS I/O (Numbers)	Others																																																																															
General-purpose	M16C/60	M16C/62P	M30624FGPPF	256K + 4K	20K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	2(SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																		
			M30624FGPGP																																							PLQP0100KB-A																																																																																		
			M30625FGPGP																																							PLQP0128KB-A																																																																																		
			M3062LFGPPF																																							PRQP0100JB-A																																																																																		
			M3062LFGPGP																																							PLQP0100KB-A																																																																																		
			M30622MWPXXXXF																																							320K	16K	M	-	-	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	2(SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																									
			M30622MWPXXXXF																																																																																PLQP0100KB-A																																									
			M30623MWPXXXXG																																																																																PLQP0128KB-A																																									
			M30624MWPXXXXF																																																																																PRQP0100JB-A																																									
			M30624MWPXXXXG																																																																																PLQP0100KB-A																																									
			M30625MWPXXXXG																																																																																PLQP0128KB-A																																									
			M30626MWPXXXXF																																																																																PRQP0100JB-A																																									
			M30626MWPXXXXG																																																																																PLQP0100KB-A																																									
			M30627MWPXXXXG																																																																																PLQP0128KB-A																																									
			M30622MHPXXXXF																																																																																384K + 4K	24K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	2(SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A
			M30622MHPXXXXF																																																																																																																									PLQP0100KB-A
			M30623MHPXXXXG																																																																																																																									PLQP0128KB-A
			M30624MHPXXXXF																																							PRQP0100JB-A																																																																																		
			M30624MHPXXXXG																																							PLQP0100KB-A																																																																																		
			M30625MHPXXXXG																																							PLQP0128KB-A																																																																																		
			M30626MHPXXXXG																																							PRQP0100JB-A																																																																																		
			M30627MHPXXXXG																																							PLQP0128KB-A																																																																																		
			M30626FHPFPF																																							384K + 4K	31K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	2(SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																									
			M30626FHPGPG																																																																																PLQP0100KB-A																																									
M30627FHPGPG	PLQP0128KB-A																																																																																																																											
M30626MJXXXXF	512K + 4K	512K	M	-	-	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	2(SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																		
M30626MJXXXXG																																										PLQP0100KB-A																																																																																		
M30627MJXXXXG																																										PLQP0128KB-A																																																																																		
M30626FJPPF	512K + 4K	512K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	2(SI/O)	-	3 (UART)	3 (UART)	-	85	3V, 5V Interface	24MHz/ 3.0 to 5.5V, 10MHz/ 2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A																																																																																		
M30626FJPGP																																										PLQP0100KB-A																																																																																		
M30627FJPGP																																										PLQP0128KB-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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer					Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package	
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture	Output Compare		PWM output	Event Counter	2-Phase Encoder Input									3-Phase Inverter Control
General-purpose	M16C/60	M16C/62N	M30620FCNFP	128K	10K	F	Yes/ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	62.5 (@16MHz)	2	-	2 circuits (Main clock, Sub clock)	Yes	-	-	-	-	-	10-bit x 18	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3(UART)	-	1(UART)	-	-	85	-	16MHz/ 3.0 to 3.6V, 7MHz/ 2.4 to 3.6V	-20 to 85, -40 to 85	PRQP0100JB-A	
			M30620FCNGP																																			PLQP0100KB-A	
			M30621FCNGP																																			PRQP0080JA-A	
			M30620MCM-XXXXFP																																			PLQP0100KB-A	
			M30620MCM-XXXXGP																																			PTQP0100LB-A	
			M30621MCM-XXXXFP																																			PRQP0080JA-A	
		M16C/62M	M30622MGN-XXXXFP	256K	12K	M	-		-	62.5 (@16MHz)	91	62.5 (@16MHz)	2	-	2 circuits (Main clock, Sub clock)	Yes	-	-	-	-	-	10-bit x 18	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3(UART)	-	1(UART)	-	-	85	16MHz/ 3.0 to 3.6V, 7MHz/ 2.4 to 3.6V, 1wait/ 2.2 to 3.6V	-20 to 85, -40 to 85	PRQP0100JB-A
			M30622MGN-XXXXGP																																				PLQP0100KB-A
			M30624FGNFP																																				PRQP0080JA-A
			M30624FGNGP																																				PTQP0100LB-A
			M30624FGNHP																																				PRQP0100JB-A
			M30624FGMGP																																				PLQP0100KB-A
	M16C/62M	M30624MGN-XXXXFP	256K	20K	M	-	-	100 (@10MHz)	91	100 (@10MHz)	2	-	2 circuits (Main clock, Sub clock)	Yes	-	-	-	-	-	10-bit x 10	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3(UART)	-	1(UART)	-	-	85	10MHz/ 2.7 to 3.6V, 7MHz/ 2.4 to 3.6V, 1wait/ 2.2 to 3.6V	-20 to 85, -40 to 85	PRQP0100JB-A		
		M30624MGN-XXXXGP																																			PLQP0100KB-A		
		M3062GF8NFP																																			PRQP0100JB-A		
		M3062GF8NGP																																			PLQP0100KB-A		
		M30620FCMFP																																			PRQP0100JB-A		
		M30620FCMGP																																			PLQP0100KB-A		
	M16C/62M	M30621FCMGP	128K	10K	M	-	-	100 (@10MHz)	91	100 (@10MHz)	2	-	2 circuits (Main clock, Sub clock)	Yes	-	-	-	-	-	10-bit x 10	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	3(TimerA)	2(TimerA)	-	2(UART)	1(UART)	68	-	-	10MHz/ 2.7 to 3.6V, 7MHz/ 2.4 to 3.6V, 1wait/ 2.2 to 3.6V	-20 to 85, -40 to 85	PRQP0080JA-A			
		M30620MCM-XXXXFP																																		PRQP0100JB-A			
		M30620MCM-XXXXGP																																		PLQP0100KB-A			
		M30621MCM-XXXXFP																																		PRQP0080JA-A			
		M30624FGMFP																																		PRQP0100JB-A			
		M30624FGMGP																																		PLQP0100KB-A			
M16C/62M	M30625FGMGP	256K	20K	F	-	-	100 (@10MHz)	91	100 (@10MHz)	2	-	2 circuits (Main clock, Sub clock)	Yes	-	-	-	-	10-bit x 10	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3(UART)	-	1(UART)	85	-	-	10MHz/ 2.7 to 3.6V, 7MHz/ 2.4 to 3.6V, 1wait/ 2.2 to 3.6V	-20 to 85, -40 to 85	PRQP0100JB-A				
	M30625FGMGP																																		PLQP0100KB-A				
M16C/62M	M30625FGMGP	256K	20K	F	-	-	100 (@10MHz)	91	100 (@10MHz)	2	-	2 circuits (Main clock, Sub clock)	Yes	-	-	-	-	10-bit x 10	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	3(TimerA)	2(TimerA)	-	2(UART)	1(UART)	68	-	-	10MHz/ 2.7 to 3.6V, 7MHz/ 2.4 to 3.6V, 1wait/ 2.2 to 3.6V	-20 to 85, -40 to 85	PRQP0080JA-A					
	M30625FGMGP																																	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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package	
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Sublock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture	Output Compare	PWM output		Event Counter	2-Phase Encoder Input	3-Phase Inverter Control									Clock Sync./ Clock Async.
General-purpose	M16C/60	M16C/62A	M30622SAFP	-	3K	L	-	-	M16C/60 core	91	62.5 (@16MHz)	2	-	Yes	-	-	-	-	-	10-bit x 10	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5 (TimerA)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3 (UART)	2 (S/I/O)	1 (UART)	-	-	85	-	16MHz/4.2 to 5.5V, 10MHz (1wait)/2.7 to 5.5V	-20 to 85, -40 to 85	PRQP0100JB-A	
			M30622SAGP		10K																																		50	PLQP0100KB-A
			M30620SAFP	32K	3K	85																																	PLQP0100JB-A	
			M30620SAGP	3K	68	PLQP0100KB-A																																		
			M30622M4A-XXXXFP	64K	4K	-																																	85	PLQP0100KB-A
			M30622M4A-XXXXGP																																					
			M30622M8A-XXXXFP	96K	5K	-																																	85	PLQP0100KB-A
			M30622M8A-XXXXGP																																					
			M30623M4A-XXXXFP	5K	-	-																																	85	PLQP0100KB-A
			M30623M4A-XXXXGP																																					
			M30622M8A-XXXXFP	5K	-	-																																	85	PLQP0100JB-A
			M30622M8A-XXXXGP																																					
			M30621M8A-XXXXFP	128K	10K	-																																	85	PLQP0100JB-A
			M30621M8A-XXXXGP																																					
			M30622MCA-XXXXFP	256K	20K	-																																	85	PLQP0100KB-A
			M30622MCA-XXXXGP																																					
			M30624FGAFP	20K	-	-																																	85	PLQP0100JB-A
			M30624FGAGP																																					
			M30625FGAFP	20K	-	-																																	85	PLQP0100JB-A
			M30625FGAGP																																					
			M30624MGA-XXXXFP	20K	-	-																																	85	PLQP0100KB-A
			M30624MGA-XXXXGP																																					
			M30625MGA-XXXXFP	20K	-	-																																	85	PLQP0100KB-A
			M30625MGA-XXXXGP																																					

★ : New product    ★★ : Under development

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



**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			CAN	I/O Ports	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																																				
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I <sup>2</sup> C-bus	SSU/Special Serial I/O	Channels	CMOS I/O (Numbers)	Others																												
USB	M16C/60	M16C/6C	R5F36CA6DFA	128K + 24K	12K	8K (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes	Yes (Voltage detection 3)	10-bit x 26 (2 circuits)	8-bit x 2	-	-	-	-	-	11 (TimerA, TimerB)	8 (TimerS)	8 (TimerS)	5 (TimerA)	11 (TimerA, TimerB)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	6 (UART)	-	-	7 (Multi master I <sup>2</sup> C, UART)	6 (UART)	-	85	3V, 5V interface USB 2.0 Full-Speed	32MHz/3.0 to 5.5V	-40 to 85	PROQP0100JD-B																																
			R5F36CA6DFB																																					-40 to 85	PLQP0100KB-A																																
			R5F36CA6NFA																																					-20 to 85	PRQP0100JD-B																																
			R5F36CA6NFB	-20 to 85	PLQP0100KB-A																																																																				
			R5F36CAEDFA	256K + 24K	20K																																			-40 to 85	PRQP0100JD-B																																
			R5F36CAEDFB																																					-20 to 85	PLQP0100KB-A																																
			R5F36CAENFA																																					-20 to 85	PRQP0100JD-B																																
			R5F36CAENFB	-20 to 85	PLQP0100KB-A																																																																				
			R5F36CAKDFB	384K + 24K	31K																																			-40 to 85	PRQP0100JD-B																																
			R5F36CAKNFA																																					-20 to 85	PLQP0100KB-A																																
R5F36CAKNFB	-40 to 85	PRQP0100JD-B																																																																							
R5F36CAMDFB	512K + 24K	31K	-20 to 85	PLQP0100KB-A																																																																					
R5F36CAMNFA			-40 to 85	PRQP0100JD-B																																																																					
R5F36CAMNFB			-40 to 85	PLQP0100KB-A																																																																					
PLC	M16C/60	M16C/6S1	R5F36S16DFB*	128K	20K	-	-	-	32.6 (@30.72MHz)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	Power line communication function	-40 to 85	PTQP0100KE-A																																			
			R5F36S16NFB*																																		-20 to 85																																				
			R5F36S1EDFB*	-40 to 85																																																																					
			R5F36S1ENFB*	-20 to 85																																																																					
		M16C/6S	M306S0F8DGP	64K	24K																																-	-	-	-	65.1 (@15.36MHz)	2	-	-	-	-	-	-	-	-	-	-	-	-	5 (TimerA)	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-40 to 105	PLQP0064KB-A	
			M306S0FADGP																																																																				-20 to 85		
		M306S0FAGP	96K	24K	-40 to 85																																																																				
		M306S0FAGP			-40 to 85																																																																				
RF	M16C/6B	M16C/6B	R5F36B4BDNP**	192K + 24K	20K	8K (Data Flash: program/erase 10k times)	-	-	62.5 (@16MHz)	4	-	3 circuits (Main clock, Sub clock, on-chip oscillator)	Yes (32.768kHz)	Yes	-	-	-	-	-	-	-	-	11 (TimerA, TimerB)	-	-	-	-	-	-	-	-	-	-	-	-	16																																			Radio Transceiver (ZigBee/IEEE802.15.4)	-40 to 85	PVQN0048KB-A
			R5F36B4BNNP																																																																					-20 to 85	
			R5F36B3EDNP*	256K + 24K																																																																				-40 to 85	
			R5F36B3ENNP																																																																					-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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package				
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
General-purpose	M16C/60	M16C/6WN	M306NWNME-XXXGP	192K	16K	M	-	-	M16C/60 core	91	41.7 (@24MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5 (TimerA)	11 (TimerA, TimerB)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3 (UART)	2(SI/O)	-	3 (UART)	3(UART)	1	111	-	24MHz/ 3.0 to 5.5V	-40 to 85	PLQP0128KB-A
			M306NWNMG-XXXGP	256K	20K	-	-																																		
		M16C/6NM	M306NWNME-XXXGP	192K	16K	M	-	-																																	
			M306NWNMG-XXXGP	256K	20K	-	-																																		
		M16C/6NL	M306NLMME-XXXGP	192K	16K	M	-	-																																	
			M306NLMG-XXXGP	256K	20K	-	-																																		
		M16C/6NK	M306NLFHGP	384K + 4K	31K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																	
			M306NKMME-XXXGP	192K	16K	M	-	-																																	
		M16C/6NK	M306NKM-XXXGP	256K	20K	M	-	-																																	
			M306NKFHGP	384K + 4K	31K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																	
		M16C/6NS	M306NSMC-XXXGP	128K	5K	M	-	-																																	
			M306NSFCFP	128K + 4K	5K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																	
		M16C/6NS	M306NSFCGP	128K + 4K	5K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																	
			M306NS4MG-XXXGP	128K	5K	M	-	-																																	
		M16C/6N4	M306NS4MG-XXXGP	256K	10K	M	-	-																																	
			M306NS4FGFP	256K + 4K	10K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																	
M16C/6N4	M306NS4FGGP	256K + 4K	10K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																			
	M306NS4FGGP	256K + 4K	10K	F	4K(Data Flash)	Yes/ID Code Check Function, ROM Code Protect Function)																																			

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

**M16C/50 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package		
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture	Output Compare		PWM output	Event Counter	2-Phase Encoder Input									3-Phase Inverter Control	Clock Sync./ Clock Async.
General-purpose	M16C/50	M16C/5LD	R5F35L30DFF	64K + 24K	4K	F (Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	4 circuits (Main clock, PLL, Sub clock, Low-speed on-chip oscillator)	Yes (2.7MHz)	Yes	Yes (Low speed: 125kHz)	Yes	-	Yes (Voltage detection 2)	10-bit x 16 (2 circuits)	Yes	-	8 (TimerA, TimerB)	8 (TimerS)	8 (TimerS)	13 (TimerA, TimerS)	8 (TimerA, TimerB)	3(TimerA) + 1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	4(UART)	-	-	2 (Multi master I <sup>2</sup> C, UART)	1(UART)	55	-	32MHz/ 3.0 to 5.5V, 25MHz/ 2.7 to 5.5V	-40 to 85	PLOP0064KB-A
			R5F35L23DFE	96K + 24K	8K															71	PLOP0080KB-A																			
			R5F35L33DFF	96K + 24K	8K															55	PLOP0064KB-A																			
			R5F35L26DFE	128K + 24K	12K															71	PLOP0080KB-A																			
			R5F35L36DFF	128K + 24K	12K															55	PLOP0064KB-A																			
			R5F35L2EDFE	256K + 24K	20K															71	PLOP0080KB-A																			
			R5F35L3EDFF	256K + 24K	20K															71	PLOP0080KB-A																			
			R5F35630DFF	64K + 24K	4K															55	PLOP0064KB-A																			
		M16C/56D	R5F35623DFF	96K + 24K	8K															71	PLOP0080KB-A																			
			R5F35633DFF	96K + 24K	8K															55	PLOP0064KB-A																			
			R5F35626DFE	128K + 24K	12K															71	PLOP0080KB-A																			
			R5F35636DFF	128K + 24K	12K															55	PLOP0064KB-A																			
			R5F3562EDFE	256K + 24K	20K															71	PLOP0080KB-A																			
			R5F3563EDFF	256K + 24K	20K															71	PLOP0080KB-A																			
			R5F35630DFF	64K + 24K	4K															55	PLOP0064KB-A																			
			R5F35633DFF	96K + 24K	8K															55	PLOP0064KB-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



**M16C/Tiny Series**

Application	Device			Memory				CPU		DMA		Clock			Power Supply Voltage Detection		ADC		DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package					
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
General-purpose	M16C/Tiny	M16C/29	M30290M8-XXXXHP	64K	4K	M	-	-	M16C/60 core	91	50 (@20MHz)	2	-	Yes	-	Yes	Yes	Yes	Yes	10-bit x 27	Yes	-	8 (TimerA, TimerB)	8 (TimerS)	8 (TimerS)	13 (TimerA, TimerS)	8 (TimerA, TimerB)	3(TimerA + 1(TimerS)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3 (UART)	-	2 (Multi master I <sup>2</sup> C, UART)	1(UART)	-	71	20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-20 to 85, -40 to 85	PLQP0080KB-A			
			M30291M8-XXXXHP	96K	8K																																			F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)
			M30290MA-XXXXHP	96K		8K	F	4K(Data Flash)																																		
			M30291MA-XXXXHP	96K + 4K	8K																																			F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)
			M30290FAHP	96K + 4K		12K	M	-																																		
			M30291FAHP	96K + 4K	12K																																			M	-	-
			M30290MC-XXXXHP	128K		12K	M	-																																		
			M30291MC-XXXXHP	128K	12K																																			M	-	-
		M30290FCHP	128K + 4K	12K		F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)																																		
		M30291FCHP	128K + 4K		12K																																			F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)
		M30280F6HP	48K + 4K	4K		M	-	-																																		
		M30280F6WG	48K + 4K		4K																																			M	-	-
		M30281F6HP	64K	4K		M	-	-																																		
		M30280M8-XXXXHP	64K		4K																																			M	-	-
		M30281M8-XXXXHP	64K	4K		M	-	-																																		
		M30280F8HP	64K + 4K		8K																																			F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)
	M30280F8WG	64K + 4K	8K	F		4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 13	71	PLQP0064KB-A																																
	M30281F8HP	96K			8K						M	-	-	10-bit x 24	71	PLQP0080KB-A																										
	M30280MA-XXXXHP	96K	8K	M		-	-	10-bit x 13	71	PLQP0064KB-A																																
	M30281MA-XXXXHP	96K + 4K			8K						F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 24	71	PLQP0080KB-A																										
	M30280FAHP	96K + 4K	8K	F		4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 13	71	PTLG0085JB-A																																
	M30280FAWG	96K + 4K			8K						F	4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 24	71	PLQP0064KB-A																										
	M30281FAHP	96K + 4K	8K	F		4K(Data Flash)	Yes(ID Code Check Function, ROM Code Protect Function)	10-bit x 13	71	PLQP0080KB-A																																
	M30280MC-XXXXHP	128K			12K						M	-	-	10-bit x 24	71	PLQP0080KB-A																										
	M30281MC-XXXXHP	128K	12K	M		-	-	10-bit x 13	71	PLQP0064KB-A																																
	M30280FCHP	128K + 4K			12K						F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 24	71	PLQP0080KB-A																										
	M30281FCHP	128K + 4K	12K	F		4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 13	71	PLQP0064KB-A																																
	M30280FCBHP	128K			12K						F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 24	71	PLQP0080KB-A																										
	M30281FCBHP	128K + 4K	12K	F		4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	10-bit x 13	71	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

### M16C/Tiny Series

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/Special Serial I/O Channels	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package		
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture		Output Compare	PWM output	Event Counter									2-Phase Encoder Input	3-Phase Inverter Control
General-purpose	M16C/26A (M16C/26B)		M30260F8BGP	64K + 4K	2K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 12	Yes	-	8 (TimerA, TimerB)	-	-	5 (TimerA)	8 (TimerA, TimerB)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3 (UART)	-	-	1 (UART)	1 (UART)	-	39	24MHz/4.2 to 5.5V, 20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-40 to 85	PLQP0048KB-A
			M30263F8BFP																	10-bit x 10										2 (UART)									
	M16C/Tiny			M30260M3A-XXXXGP M30263M3A-XXXXFP	24K + 4K	1K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	2	-	Yes	-	Yes	-	-	-	10-bit x 12	Yes	-	8 (TimerA, TimerB)	-	-	5 (TimerA)	8 (TimerA, TimerB)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3 (UART)	-	-	1 (UART)	1 (UART)	-	39	20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-20 to 85, -40 to 85	PLQP0048KB-A PRSP0042GA-B
				M30260F3AGP M30263F3AFP																10-bit x 10										2 (UART)									
	M16C/26A (M16C/26A)			M30260M6A-XXXXGP M30263M6A-XXXXFP	48K + 4K	2K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	2	-	Yes	-	Yes	-	-	-	10-bit x 12	Yes	-	8 (TimerA, TimerB)	-	-	5 (TimerA)	8 (TimerA, TimerB)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3 (UART)	-	-	1 (UART)	1 (UART)	-	39	20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-20 to 85, -40 to 85	PLQP0048KB-A PRSP0042GA-B
				M30260F6AGP M30263F6AFP																10-bit x 10										2 (UART)									
	M16C/26A (M16C/26A)			M30260M8A-XXXXGP M30263M8A-XXXXFP	64K + 4K	2K	M	-	-	M16C/60 core	91	2	-	Yes	-	Yes	-	-	-	10-bit x 12	Yes	-	8 (TimerA, TimerB)	-	-	5 (TimerA)	8 (TimerA, TimerB)	3 (TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	3 (UART)	-	-	1 (UART)	1 (UART)	-	39	20MHz/3.0 to 5.5V, 10MHz/2.7 to 5.5V	-20 to 85, -40 to 85	PLQP0048KB-A PRSP0042GA-B
				M30260F8AGP M30263F8AFP																10-bit x 10										2 (UART)									

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

**M16C/20 Series**

Device				Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC	Timer					Watchdog Timer	Serial Interface			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/EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I <sup>2</sup> C-bus	SSU/Special Serial I/O Channels	Channels	CMOS I/O (Numbers)	Others	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package	
USB	M16C/20	M16C/24	M30245MB-XXXXGP	64K	5K	M	-	-	M16C/60 core	91	62.5 (@16MHz)	4	-	3 circuits (Main clock, Sub clock, Low-speed on-chip oscillator)	Yes	-	Yes	Yes	-	-	10-bit x 8	Yes	-	5 (TimerA0, TimerA1, TimerA2, TimerA3, TimerA4)	-	-	5(shared with TimerA0, TimerA1, TimerA2, TimerA3, TimerA4)	5(shared with TimerA0, TimerA1, TimerA2, TimerA3, TimerA4)	-	-	1	4 (UART0, UART1, UART2, UART3)	-	-	4(UART0, UART1, UART2, UART3)	2(UART0, UART1, Serial Sound Interface)	-	80	Serial Sound Interface : 2, AND Flash Controller USB 2.0 Full-Speed	16MHz/3.0 to 3.6V	-20 to 85	PLQP0100KB-A
			M30245FCGP	128K	10K	F	-	Yes (ID Code Check Function, ROM Code Protect Function)																																		
			M30245MC-XXXXGP			M	-	-																																		

★ : New product    ★★ : Under development

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

**M16C/10 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package		
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ E2Data Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture		Output Compare	PWM output	Event Counter									2-Phase Encoder Input	3-Phase Inverter Control
<b>General-purpose</b>	M16C/10	M16C/1N	M301N2F8FP	64K + 4K	3K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	62.5 (@16MHz)	-	-	3 circuits (Main clock, Sub clock, Low- speed on-chip oscillator)	Yes	-	Yes	Yes	-	-	10-bit x 14	Yes	8-bit x 1	1 (TimerC)	1 (TimerC)	-	2(TimerY, TimerZ)	1 (TimerX)	-	-	-	-	-	1	37	-	16MHz/ 4.2 to 5.5V	-40 to 85	PLQP0048KB-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



**R32C/100 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package		
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTIC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
Car Audio, Body Electronics	R32C/100	R32C/151	R5F6451MJFD	768K + 8K	48K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 34	Yes	8-bit x 2	11 (TimerA, TimerB)	32 (Intelligent I/O)	32 (Intelligent I/O)	37 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3 (TimerA) + 2 (Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	63 (UART) + 3 (Serial bus interface)	2	120	LIN(8)	64MHz/ 3.0 to 5.5V	-40 to 85	PLQP0144KA-A
			R5F6451MKFD																																					-40 to 125	
			R5F6451MLFD																																					-40 to 105	
			R5F64514JFD																																					-40 to 85	
		R5F64514KFD	-40 to 125																																						
		R5F64514LFD	-40 to 105																																						
		R5F6451NJFD	-40 to 85																																						
		R5F6451NKFD	-40 to 125																																						
	R5F6451NLFD	-40 to 105																																							
	R5F64515JFD	-40 to 85																																							
	R5F64515KFD	-40 to 125																																							
	R5F64515LFD	-40 to 105																																							
	R32C/152	R32C/152	R5F6452MJFD	768K + 8K	48K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 34	Yes	8-bit x 2	11 (TimerA, TimerB)	32 (Intelligent I/O)	32 (Intelligent I/O)	37 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3 (TimerA) + 2 (Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	63 (UART) + 3 (Serial bus interface)	3	120	LIN(8)	64MHz/ 3.0 to 5.5V	-40 to 105	PLQP0144KA-A
			R5F6452MKFD																																					-40 to 125	
			R5F6452MLFD																																					-40 to 105	
			R5F64524JFD																																					-40 to 85	
R5F64524KFD		-40 to 125																																							
R5F64524LFD		-40 to 105																																							
R5F6452NJFD		-40 to 85																																							
R5F6452NKFD		-40 to 125																																							
R5F6452NLFD	-40 to 105																																								
R5F64525JFD	-40 to 85																																								
R5F64525KFD	-40 to 125																																								
R5F64525LFD	-40 to 105																																								

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

**R32C/100 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package					
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
Car Audio, Body Electronics	R32C/100	R32C/153	R5F6453MJFD	768K + 8K	48K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 34	Yes	8-bit x 2	11 (TimerA, TimerB)	32 (Intelligent I/O)	32 (Intelligent I/O)	37 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3 (TimerA, 2 Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	63 (UART) + 3 (Serial bus interface)	4	120	LIN(8)	64MHz/ 3.0 to 5.5V	-40 to 85	PLQP0144KA-A	
			R5F6453MKFD																																					-40 to 125		
			R5F6453MLFD	-40 to 105																																						
			R5F64534JFD	768K + 16K																																				8K(Data Flash/ erase 10k times), 8K(EZdataFlash/ erase 100k times)		-40 to 85
			R5F64534KFD																																							-40 to 125
			R5F64534LFD	1024K + 8K																																				8K(Data Flash/ erase 10k times)		-40 to 105
		R5F6453NJFD	-40 to 85																																							
		R5F6453NKFD	1024K + 16K	8K(Data Flash/ erase 10k times), 8K(EZdataFlash/ erase 100k times)	-40 to 125																																					
		R5F6453NLFDF			-40 to 85																																					
		R5F64535JFD	256K + 8K	20K	F	-40 to 105																																				
		R5F64535KFD				-40 to 125																																				
		R5F64535LFD	256K + 12K	24K	8K(Data Flash/ erase 10k times)	-40 to 105																																				
	R5F6456FJFD	-40 to 125																																								
	R5F6456FKFD	384K + 8K	8K(Data Flash/ erase 10k times)	-40 to 85																																						
	R5F6456FLFD			-40 to 125																																						
	R5F64561JFD	384K + 12K	8K(Data Flash/ erase 10k times), 4K(EZdataFlash/ erase 100k times)	-40 to 125																																						
	R5F64561KFD			-40 to 85																																						
	R5F64561LFD	512K + 8K	32K	8K(Data Flash/ erase 10k times)	-40 to 125																																					
	R5F6456GJFD				-40 to 85																																					
	R5F6456GKFD	512K + 12K	8K(Data Flash/ erase 10k times), 4K(EZdataFlash/ erase 100k times)	-40 to 125																																						
	R5F6456GLFD			-40 to 85																																						
	R5F64562JFD	512K + 8K	8K(Data Flash/ erase 10k times)	-40 to 125																																						
	R5F64562KFD			-40 to 85																																						
	R5F64562LFD	512K + 12K	8K(Data Flash/ erase 10k times), 4K(EZdataFlash/ erase 100k times)	-40 to 125																																						
R5F6456HJFD	-40 to 85																																									
R5F6456HKFD	512K + 8K	8K(Data Flash/ erase 10k times)	-40 to 125																																							
R5F6456HLFD			-40 to 85																																							
R5F64563JFD	512K + 12K	8K(Data Flash/ erase 10k times), 4K(EZdataFlash/ erase 100k times)	-40 to 125																																							
R5F64563KFD			-40 to 85																																							
R5F64563LFD				-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

**R32C/100 Series**

Device		Memory				CPU		DMA		Clock			Power Supply Voltage Detection		ADC		DAC		Timer						Serial Interface			Watchdog Timer	Clock Sync./ Clock Async.	Clock Sync. Only	Clock Async. Only	I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	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/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTIC/DMACII	Clock Generation Circuit	Sublock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture	Output Compare	PWM output													Event Counter	2-Phase Encoder Input	3-Phase Inverter Control
Car Audio, Body Electronics	R32C/100	R32C/157	R5F6457JFJFD	256K + 8K	20K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	Yes	Yes (Low voltage detection)	10-bit x 34	Yes	8-bit x 2	11 (TimerA, TimerB)		32 (Intelligent I/O)	32 (Intelligent I/O)	37 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3 (TimerA, 2 Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	6 (3 UART) + 3 (Serial bus interface)	3	120	LIN(4)	64MHz/ 3.0 to 5.5V	-40 to 85	PLOP0144KA-A
			R5F6457FKFDF																																							
			R5F6457FLFDF																																							
			R5F64571JFJFD																																							
			R5F64571KFDF																																							
			R5F64571LFD																																							
		R5F6457GJFDF																																								
		R5F6457GKFDF																																								
		R5F6457GLFDF																																								
		R5F64572JFDF																																								
		R5F64572KFDF																																								
		R5F64572LFD																																								
	R5F6457HJFDF																																									
	R5F6457HKFDF																																									
	R5F6457HLFDF																																									
	R5F64573JFDF																																									
	R5F64573KFDF																																									
	R5F64573LFD																																									
	R32C/120	R32C/120	R32C/120	R5F6420AJFJB	128K + 8K	12K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)		16 (Intelligent I/O)	16 (Intelligent I/O)	21 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3 (TimerA, 2 Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	6 (3 UART) + 3 (Serial bus interface)	1	84	LIN(2)	-40 to 85	PLOP0100KB-A	
				R5F6420AKFJB																																						
				R5F6420ALFJB																																						
			R5F64206JFJB																																							
			R5F64206KFJB																																							
			R5F64206LFD																																							
R5F6420BJFJB																																										
R5F6420BKFJB																																										
R5F6420BLFJB																																										
R5F64207JFJB																																										
R5F64207KFJB																																										
R5F64207LFD																																										

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

**R32C/100 Series**

Device		Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Serial Interface			Other Functions		Package												
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTCC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	CMOS I/O (Numbers)	Others	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package
Car Audio, Body Electronics	R32C/100	R32C/121	R5F6421AJFB	128K + 8K	12K	8K(Data Flash/ erase 10k time)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	Yes (Low voltage detection)	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	16 (Intelligent I/O)	21 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 2(Intelligent I/O)	(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	63(UART) + 3(Serial Bus Interface)	2	84	LIN(2)	64MHz/ 3.0 to 5.5V	-40 to 85	PLOP0100KB-A		
			R5F6421AKFB																																					-40 to 125			
			R5F6421ALFB	-40 to 105																																							
			R5F64216JFB	128K + 12K	12K	8K(Data Flash/ erase 10k time), 4K(EZdataFlash/ erase 100k times)																																		-40 to 85			
			R5F64216KFB																																					-40 to 125			
			R5F64216LFB	256K + 8K	20K	8K(Data Flash/ erase 10k time)																																		-40 to 105			
			R5F6421BKFB																																					-40 to 125			
			R5F6421BLFB	256K + 12K	20K	8K(Data Flash/ erase 10k time)																																		-40 to 105			
			R5F64217JFB																																					-40 to 125			
			R5F64217KFB	384K + 8K	24K	8K(Data Flash/ erase 10k time)																																		-40 to 125			
			R5F64217LFB																																					-40 to 85			
			R5F6421CJFB	384K + 12K	24K	8K(Data Flash/ erase 10k time)																																		-40 to 105			
			R5F6421CKFB																																					-40 to 125			
			R5F6421CLFB	512K + 8K	32K	8K(Data Flash/ erase 10k time)																																		-40 to 85			
			R5F64218JFB																																					-40 to 125			
			R5F64218KFB	512K + 12K	32K	8K(Data Flash/ erase 10k time)																																		-40 to 105			
			R5F64218LFB																																					-40 to 125			
			R5F6421DJFB	512K + 8K	32K	8K(Data Flash/ erase 10k time)																																		-40 to 85			
			R5F6421DKFB																																					-40 to 125			
			R5F6421DLFB	512K + 12K	32K	8K(Data Flash/ erase 10k time)																																		-40 to 105			
R5F64219JFB	-40 to 85																																										
R5F64219KFB	512K + 12K	32K	8K(Data Flash/ erase 10k time)	-40 to 125																																							
R5F64219LFB				-40 to 105																																							

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

### R32C/100 Series

Device		Memory				CPU		DMA		Clock			Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special I/O Channels	CAN	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package							
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTIC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold		Resolution x Channels	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
Car Audio, Body Electronics	R32C/100	R32C/160	R5F6460EJFP	128K + 8K	12K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	20.8 (@48MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	-	Yes	10-bit x 23	Yes	-	11 (TimerA, TimerB)	8 (Intelligent I/O)	8 (Intelligent I/O)	13 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	4(3(UART) + 1(Serial bus interface))	64	LIN(1)	48MHz/ 3.0 to 5.5V	-40 to 85	PLQP080KB-A
			R5F6460EKFP																																					-40 to 125	
			R5F6460ELFP																																					-40 to 105	
			R5F64600JFP																																					-40 to 85	
			R5F64600KFP																																					-40 to 125	
		R5F64600LFP	-40 to 105																																						
		R5F6460FJFP	20K	256K + 8K	8K(Data Flash/ erase 10k times)	F	R32C/100 core	108	20.8 (@48MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	-	Yes	-	-	Yes	10-bit x 23	Yes	-	11 (TimerA, TimerB)	8 (Intelligent I/O)	8 (Intelligent I/O)	13 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	4(3(UART) + 1(Serial bus interface))	64	LIN(1)	48MHz/ 3.0 to 5.5V	-40 to 85	PLQP080KB-A
		R5F6460FKFP																																						-40 to 125	
		R5F6460FLFP																																						-40 to 105	
		R5F64601JFP																																						-40 to 85	
	R5F64601KFP	-40 to 125																																							
	R5F64601LFP	-40 to 105																																							
	R32C/161	R32C/161	R32C/161	R5F6461EJFP	128K + 8K	12K	8K(Data Flash/ erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	20.8 (@48MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	-	-	Yes	10-bit x 23	Yes	-	11 (TimerA, TimerB)	8 (Intelligent I/O)	8 (Intelligent I/O)	13 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	4(3(UART) + 1(Serial bus interface))	64	LIN(1)	48MHz/ 3.0 to 5.5V	-40 to 85	PLQP080KB-A
	R5F6461EKFP			-40 to 125																																					
	R5F6461ELFP			-40 to 105																																					
	R5F64610JFP			-40 to 85																																					
	R5F64610KFP			-40 to 125																																					
	R5F64610LFP		-40 to 105																																						
	R5F6461FJFP		20K	256K + 8K	8K(Data Flash/ erase 10k times)	F	R32C/100 core	108	20.8 (@48MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	-	Yes	-	-	Yes	10-bit x 23	Yes	-	11 (TimerA, TimerB)	8 (Intelligent I/O)	8 (Intelligent I/O)	13 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 1(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	4(3(UART) + 1(Serial bus interface))	64	LIN(1)	48MHz/ 3.0 to 5.5V	-40 to 85	PLQP080KB-A
	R5F6461FKFP																																							-40 to 125	
R5F6461FLFP	-40 to 105																																								
R5F64611JFP	-40 to 85																																								
R5F64611KFP	-40 to 125																																								
R5F64611LFP	-40 to 105																																								

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

**R32C/100 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface				I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package	
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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
Car Audio, Body Electronics	R32C/100	R32C/145	R5F6445FJFB	256K + 8K	32K	F	8K(Data Flash/erase 100 times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	16 (Intelligent I/O)	21 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA)+2(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	6	84	CAN gateway (Routing possibility between maximum CAN 6 channels) LIN: 2 channels	64MHz/4.2 to 5.5V(VCC), 3.0 to VCC(VCC0)	-40 to 85 -40 to 125 -40 to 105 -40 to 85 -40 to 125 -40 to 105 -40 to 85 -40 to 125 -40 to 105 -40 to 85	PLQP0100KB-A
			R5F6445FKFB																																						
			R5F6445FLFB																																						
			R5F6445HJFB																																						
			R5F6445HKFB																																						
			R5F6445HLFB																																						
	R32C/142	R32C/142	R5F6442FJFB	256K + 8K	32K	F	8K(Data Flash/erase 100 times)	Yes (ID Code Check Function, ROM Code Protect Function)	R32C/100 core	108	15.625 (@64MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	16 (Intelligent I/O)	16 (Intelligent I/O)	21 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA)+2(Intelligent I/O)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	5 (UART)	-	-	3 (UART)	3	CAN gateway (Routing possibility between maximum CAN 3 channels) LIN: 2 channels	64MHz/4.2 to 5.5V(VCC), 3.0 to VCC(VCC0)	-40 to 85 -40 to 125 -40 to 105 -40 to 85 -40 to 125 -40 to 105 -40 to 85 -40 to 125 -40 to 105 -40 to 85	PLQP0100KB-A	
			R5F6442FKFB																																						
			R5F6442FLFB																																						
			R5F6442HJFB																																						
			R5F6442HKFB																																						
			R5F6442HLFB																																						

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

### M32C/80 Series

Application		Device			Memory				CPU		DMA			Clock				Power Supply Voltage Detection		ADC		DAC		Timer							Watchdog Timer	Serial Interface			CAN	I/O Ports	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																																						
Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTCC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I²C-bus							SSU/Special Serial I/O	Channels	CMOS I/O (Numbers)	Others																																		
Car Audio, Body Electronics	M32C/80	M32C/85 (M32C/87)	M30853MGTXXXGP	256K	20K	M	-	-	M32C80 core	108	31.3 (@32MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	-	Yes	8-bit x 2	11 (TimerA, TimerB)	8 (Intelligent I/O)	8 (Intelligent I/O)	13 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3 (TimerA, 1Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6 (UART, Intelligent I/O)	1 (Intelligent I/O)	-	5 (UART)	5 (UART)	2	-	32MHz/ 4.2 to 5.5V	-40 to 85	PLQP0100KB-A																																							
			M30853MGTXXXGP																																			-40 to 105																																								
			M30855MGTXXXGP																																			-40 to 85	PLQP0144KA-A																																							
			M30855MGTXXXGP																																			-40 to 105																																								
			M30855MGTXXXGP																																			-40 to 85	PLQP0100KB-A																																							
			M30855MGTXXXGP																																			-40 to 105																																								
			M30855MGTXXXGP	320K	20K	M	-	-																														-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
			M30855MGTXXXGP																																																																					-40 to 85	PLQP0100KB-A					
			M30855MGTXXXGP																																																																					-40 to 105						
			M30855MGTXXXGP																																																																					-40 to 85	PLQP0144KA-A					
			M30855MGTXXXGP																																																																					-40 to 105						
			M30855MGTXXXGP																																																																					-40 to 85	PLQP0100KB-A					
			M30853FWTGP	320K + 4K	20K	F	4K (Data Flash)	Yes (ID Code Function, ROM Code Protect Function)																														-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
			M30853FWTGP																																																																							-40 to 85	PLQP0100KB-A			
			M30853FWTGP																																																																							-40 to 105				
			M30853FWTGP																																																																							-40 to 85	PLQP0144KA-A			
			M30853FWTGP																																																																							-40 to 105				
			M30853FWTGP																																																																							-40 to 85	PLQP0100KB-A			
			M30855FWUGP	384K	20K	M	-	-																														-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
			M30855FWUGP																																																																										-40 to 85	PLQP0100KB-A
			M30855FWUGP																																																																										-40 to 105	
			M30855FWUGP																																																																										-40 to 85	PLQP0144KA-A
			M30855FWUGP																																																																										-40 to 105	
			M30855FWUGP																																																																										-40 to 85	PLQP0100KB-A
M30853FHUGP	384K + 4K	20K	F	4K (Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																	
M30853FHUGP																																														-40 to 85	PLQP0100KB-A																															
M30853FHUGP																																														-40 to 105																																
M30853FHUGP																																														-40 to 85	PLQP0144KA-A																															
M30853FHUGP																																														-40 to 105																																
M30853FHUGP																																														-40 to 85	PLQP0100KB-A																															
M30853FHTGP	512K + 4K	20K	F	4K (Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																
M30853FHTGP																																															-40 to 85	PLQP0100KB-A																														
M30853FHTGP																																															-40 to 105																															
M30853FHTGP																																															-40 to 85	PLQP0144KA-A																														
M30853FHTGP																																															-40 to 105																															
M30853FHTGP																																															-40 to 85	PLQP0100KB-A																														
M30853FJTGP	512K + 4K	20K	F	4K (Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																															
M30853FJTGP																																																-40 to 85	PLQP0100KB-A																													
M30853FJTGP																																																-40 to 105																														
M30853FJTGP																																																-40 to 85	PLQP0144KA-A																													
M30853FJTGP																																																-40 to 105																														
M30853FJTGP																																																-40 to 85	PLQP0100KB-A																													
M30855FJUUGP	512K + 4K	20K	F	4K (Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																														
M30855FJUUGP																																																	-40 to 85	PLQP0100KB-A																												
M30855FJUUGP																																																	-40 to 105																													
M30855FJUUGP																																																	-40 to 85	PLQP0144KA-A																												
M30855FJUUGP																																																	-40 to 105																													
M30855FJUUGP																																																	-40 to 85	PLQP0100KB-A																												
M30855FJUGP	512K + 4K	20K	F	4K (Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																														
M30855FJUGP																																																	-40 to 85	PLQP0100KB-A																												
M30855FJUGP																																																	-40 to 105																													
M30855FJUGP																																																	-40 to 85	PLQP0144KA-A																												
M30855FJUGP																																																	-40 to 105																													
M30855FJUGP																																																	-40 to 85	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

### M32C/80 Series

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	CAN	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package					
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I/O	Special Serial I/O Channels
Car Audio, Body Electronics	M32C/80	M32C/84 M32C/84T	M30840MCT-XXXGP	128K	10K	M	-	-	M32C/80 core	108	31.3 (@32MHz)	4	DMACII (Startup Possible with All Peripheral Function Interrupt Causes)	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	8 (Intelligent I/O)	8 (Intelligent I/O)	13 (TimerA, Intelligent I/O)	11 (TimerA, TimerB)	3(TimerA) + 1(Intelligent I/O)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	6(UART, Intelligent I/O)	1(Intelligent I/O)	-	5 (UART)	5 (UART)	1	85	-40 to 85	PLQP0100KB-A					
			M30842MCT-XXXGP	121	121															PLQP0144KA-A																								
			M30843MGU-XXXGP	256K	20K															85	-40 to 105																			PLQP0100KB-A				
			M30845MGU-XXXGP																																						121	121	PLQP0144KA-A	
			M30844MGT-XXXGP	320K	M															85	-40 to 85																			PLQP0100KB-A				
			M30845MGU-XXXGP																																						121	121	PLQP0144KA-A	
			M30843MWT-XXXGP	384K	24K															85	-40 to 85																			PLQP0100KB-A				
			M30845MWT-XXXGP																																						121	121	PLQP0144KA-A	
			M30843MHU-XXXGP	384K + 4K	F															4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)																			320K + 4K	18K	85	-40 to 85	PLQP0100KB-A
			M30845MHU-XXXGP																																									
			M30843FJTG	512K + 4K	F															4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)																			384K + 4K	18K	85	-40 to 85	PLQP0100KB-A
			M30845FJTG																																									
		M30845FJUG	M32C/88 M32C/88T	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	320K + 4K	18K	85	-40 to 85	PLQP0100KB-A																																	
		M30880FWTGP										384K + 4K	18K	85	-40 to 85	PLQP0100KB-A																												
		M30880FWUGP															121	121	PLQP0144KA-A																									
		M30882FWTGP										384K + 4K	18K	85	-40 to 85	PLQP0100KB-A																												
		M30882FWUGP															121	121	PLQP0144KA-A																									
		M30880FHTGP										512K + 4K	18K	85	-40 to 85	PLQP0100KB-A																												
		M30880FHUGP															121	121	PLQP0144KA-A																									
		M30882FHTGP										512K + 4K	18K	85	-40 to 85	PLQP0100KB-A																												
		M30882FHUGP															121	121	PLQP0144KA-A																									
		M30880FJTG										512K + 4K	18K	85	-40 to 85	PLQP0100KB-A																												
		M30880FJUGP															121	121	PLQP0144KA-A																									
		M30882FJTG										512K + 4K	18K	85	-40 to 85	PLQP0100KB-A																												
M30882FJUGP	121	121	PLQP0144KA-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





M16C/60 Series

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/Special Serial I/O Channels	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package																															
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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																												
Car Audio, Body Electronics	M16C/60	M16C/6N4	M306N4MCTXXXFP	128K	M	-	-	M16C/60 core	91	50 (@20MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	Yes	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	1(SI/O)	-	3 (UART)	3 (UART)	85	-	20MHz/4.2 to 5.5V	-40 to 85	PRQP0100JB-A																															
			M306N4MCTXXXGP																																				PLQP0100KB-A																															
			M306N4MCTVXXXFP																																				PRQP0100JB-A																															
			M306N4MCTVXXXGP																																				PLQP0100KB-A																															
			M306N4FCTFP																																				PRQP0100JB-A																															
			M306N4FCTGP																																				PLQP0100KB-A																															
			M306N4FCVFP																																				PRQP0100JB-A																															
		M306N4FCVGP	PLQP0100KB-A																																																																			
		M306N4MGTXXXFP	256K	M	-	-	M16C/60 core																																91	50 (@20MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	Yes	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	1(SI/O)	-	3 (UART)	3 (UART)	85	-	20MHz/4.2 to 5.5V	-40 to 85	PRQP0100JB-A
		M306N4MGTXXXGP																																																																				PLQP0100KB-A
		M306N4MGTVXXXFP																																																																				PRQP0100JB-A
		M306N4MGTVXXXGP																																																																				PLQP0100KB-A
		M306N4FGTFP																																																																				PRQP0100JB-A
		M306N4FGTGP																																																																				PLQP0100KB-A
	M306N4FGVFP	PRQP0100JB-A																																																																				
	M306N4FGVGP	PLQP0100KB-A																																																																				
	M16C/6N5	M16C/6N5	M16C/6N5	M306N5MCTXXXFP	128K	M		-	M16C/60 core	91	50 (@20MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA, TimerB)	3(TimerA)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	1(SI/O)	-	3 (UART)	3 (UART)	85	-	20MHz/4.2 to 5.5V	-40 to 85																																PRQP0100JB-A
				M306N5MCTXXXGP																																																																		PLQP0100KB-A
				M306N5MCTVXXXFP																																																																		PRQP0100JB-A
			M306N5MCTVXXXGP	PLQP0100KB-A																																																																		
M306N5FCTFP			PRQP0100JB-A																																																																			
M306N5FCTGP			PLQP0100KB-A																																																																			
M306N5FCVFP	PRQP0100JB-A																																																																					
M306N5FCVGP	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

**M16C/60 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package			
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture		Output Compare	PWM output	Event Counter									2-Phase Encoder Input	3-Phase Inverter Control	Clock Sync./ Clock Async.
Car Audio, Body Electronics	M16C/60	M16C/60K	M306NKFHTGP	384K + 4K	31K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	50 (@20MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	-	3 (UART)	3 (UART)	2	-	20MHz/ 4.2 to 5.5V	-40 to 85	PLQP0100KB-A	
			M306NKFHVGP																																			-40 to 125		
			M306NKFJTG																																			-40 to 85		
			M306NKFJVG																																			-40 to 125		
	M16C/60M	M306NMFHTGP	384K + 4K	31K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	50 (@20MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, On-chip oscillator)	Yes	-	Yes	-	-	-	10-bit x 26	Yes	8-bit x 2	11 (TimerA, TimerB)	-	-	5(TimerA)	11 (TimerA TimerB)	3(TimerA)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	-	3 (UART)	3 (UART)	2	-	20MHz/ 4.2 to 5.5V	-40 to 85		PLQP0128KB-A
		M306NMFHVGP																																				-40 to 125		
		M306NMFJTG																																				-40 to 85		
		M306NMFJVG																																				-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



M16C/50 Series

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package																																					
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ E2data Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTCC/DMAII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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																																
Car Audio, Body Electronics	M16C/50	M16C/SM	R5F35M16JFB	128K + 28K	12K	8K(Data Flash), 4K(E2data Flash/ erase 100k times)		M16C60 core	91	31.25 (6.32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes	Yes	Yes	Yes (Voltage detection 2)	Yes	8-bit x 1	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA) + 1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	-	-	2(Multi master I <sup>2</sup> C, UART)	2(1(UART) + 1(Serial bus interface))	1	87	LIN(1)	32MHz/ 3.0 to 5.5V	-40 to 85	PLQP0100KB-A																																								
			R5F35M26JFE																																		1	70	PLQP0080KB-A																																					
			R5F35M36JFF																																			54	PLQP0064KB-A																																					
			R5F35MA6JFB																																		2	87	PLQP0100KB-A																																					
			R5F35MB6JFE																																			70	PLQP0080KB-A																																					
			R5F35MC6JFF																																			54	PLQP0064KB-A																																					
			R5F35M16KFB																																		1	87	PLQP0100KB-A																																					
			R5F35M26KFE																																			70	PLQP0080KB-A																																					
			R5F35M36KFF																																			54	PLQP0064KB-A																																					
			R5F35MA6KFB																																		2	87	PLQP0100KB-A																																					
			R5F35MB6KFE																																			70	PLQP0080KB-A																																					
			R5F35MC6KFF																																			54	PLQP0064KB-A																																					
			R5F35M6EJFB																																		256K + 28K	20K	8K(Data Flash), 4K(E2data Flash/ erase 100k times)		M16C60 core	91	31.25 (6.32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes	Yes	Yes	Yes	Yes	Yes (Voltage detection 2)	Yes	8-bit x 1	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA) + 1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	-	-	2(Multi master I <sup>2</sup> C, UART)	2(1(UART) + 1(Serial bus interface))	1	87	LIN(1)	32MHz/ 3.0 to 5.5V	-40 to 85	PLQP0100KB-A					
			R5F35M7EJFE																																																																					1	70	PLQP0080KB-A		
			R5F35M8EJFF																																																																						54	PLQP0064KB-A		
			R5F35MDEJFB																																																																					2	87	PLQP0100KB-A		
			R5F35MEEJFE	70	PLQP0080KB-A																																																																							
			R5F35MFEJFF		54	PLQP0064KB-A																																																																						
			R5F35M6EKFB	1	87	PLQP0100KB-A																																																																						
			R5F35M7EKFE		70	PLQP0080KB-A																																																																						
			R5F35M8EKFF		54	PLQP0064KB-A																																																																						
			R5F35MDEKFB	2	87	PLQP0100KB-A																																																																						
			R5F35MEEKFE		70	PLQP0080KB-A																																																																						
			R5F35MFEKFF		54	PLQP0064KB-A																																																																						
			R5F35M1EJFB	256K + 28K	20K	8K(Data Flash), 4K(E2data Flash/ erase 100k times)		M16C60 core	91	31.25 (6.32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes (32.768kHz)	Yes	Yes	Yes	Yes	Yes	Yes (Voltage detection 2)	Yes	8-bit x 1	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA) + 1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	-	-	2(Multi master I <sup>2</sup> C, UART)	2(1(UART) + 1(Serial bus interface))	1	87	LIN(1)	32MHz/ 3.0 to 5.5V																																				-40 to 85	PLQP0100KB-A			
			R5F35M2EJFE																																																																							1	70	PLQP0080KB-A
			R5F35M3EJFF																																																																								54	PLQP0064KB-A
			R5F35MAEJFB																																																																							2	87	PLQP0100KB-A
			R5F35MBEJFE																																		70	PLQP0080KB-A																																						
			R5F35MCEJFF																																			54	PLQP0064KB-A																																					
			R5F35M1EKFB																																		1	87	PLQP0100KB-A																																					
			R5F35M2EKFE																																			70	PLQP0080KB-A																																					
R5F35M3EKFF	54	PLQP0064KB-A																																																																										
R5F35MAEKFB	2	87	PLQP0100KB-A																																																																									
R5F35MBEKFE		70	PLQP0080KB-A																																																																									
R5F35MCEKFF		54	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

**M16C/50 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC	Timer					Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	CAN Channels	I/O Ports (Numbers)	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature(°C)	Package																																																															
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ E2data Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTIC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I/O	CMOS I/O (Numbers)	Others																																																							
Car Audio, Body Electronics	M16C/50	M16C/57	R5F35773JFE	96K + 24K	8K	8K(Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes (Voltage detection 2)	8-bit x 1	Yes	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA)+1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	5(UART)	-	-	2(Multi master PC, UART)	2(1UART)+1(Serial bus interfacel)	-	LIN(1)	32MHz/3.0 to 5.5V	-40 to 85	PLQP0080KB-A																																																															
			R5F35773KFE																									4(UART)								-40 to 125	PLQP0064KB-A																																																															
			R5F35783JFF																									5(UART)								-40 to 85	PLQP0080KB-A																																																															
			R5F35783KFF																									4(UART)								-40 to 125	PLQP0064KB-A																																																															
			R5F35723JFE																									5(UART)								-40 to 85	PLQP0080KB-A																																																															
			R5F35723KFE																									4(UART)								-40 to 125	PLQP0064KB-A																																																															
			R5F35733JFF	128K + 24K	8K(Data Flash)	8K(Data Flash), 4K(E2data Flash/ erase 100k times)																						12K								8K(Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes (Voltage detection 2)	8-bit x 1	Yes	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA)+1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	5(UART)	-	-	2(Multi master PC, UART)	2(1UART)+1(Serial bus interfacel)	-	LIN(1)	32MHz/3.0 to 5.5V	-40 to 85	PLQP0080KB-A																																	
			R5F35733KFF																																																							4(UART)								-40 to 125	PLQP0064KB-A																																	
			R5F35766JFB																																																							256K + 24K								8K(Data Flash)	8K(Data Flash), 4K(E2data Flash/ erase 100k times)	20K	8K(Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes (Voltage detection 2)	8-bit x 1	Yes	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA)+1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	5(UART)	-	-	2(Multi master PC, UART)	2(1UART)+1(Serial bus interfacel)	-	LIN(1)	32MHz/3.0 to 5.5V	-40 to 85	PLQP0100KB-A
			R5F35766KFB																																																																																								4(UART)								-40 to 125	PLQP0064KB-A
			R5F35776JFE																																																																																								5(UART)								-40 to 85	PLQP0080KB-A
			R5F35776KFE																																																																																								4(UART)								-40 to 125	PLQP0064KB-A
			R5F35786JFF	5(UART)	-40 to 85	PLQP0080KB-A																																																																																														
			R5F35786KFF	4(UART)	-40 to 125	PLQP0064KB-A																																																																																														
			R5F35716JFB	256K + 28K	8K(Data Flash)	8K(Data Flash), 4K(E2data Flash/ erase 100k times)																						20K								8K(Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes (Voltage detection 2)	8-bit x 1	Yes	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA)+1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	5(UART)								-	-	2(Multi master PC, UART)	2(1UART)+1(Serial bus interfacel)	-	LIN(1)	32MHz/3.0 to 5.5V	-40 to 85	PLQP0100KB-A																										
			R5F35716KFB																																																							4(UART)															-40 to 125	PLQP0064KB-A																										
			R5F35726JFE																																																							5(UART)															-40 to 85	PLQP0080KB-A																										
			R5F35726KFE																																																							4(UART)															-40 to 125	PLQP0064KB-A																										
			R5F35736JFF																																																							5(UART)															-40 to 85	PLQP0080KB-A																										
			R5F35736KFF																																																							4(UART)															-40 to 125	PLQP0064KB-A																										
			R5F3576EJFB	256K + 24K	8K(Data Flash)	8K(Data Flash), 4K(E2data Flash/ erase 100k times)																						20K								8K(Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes (Voltage detection 2)	8-bit x 1	Yes	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA)+1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	5(UART)															-	-	2(Multi master PC, UART)	2(1UART)+1(Serial bus interfacel)	-	LIN(1)	32MHz/3.0 to 5.5V	-40 to 85	PLQP0100KB-A																			
			R5F3576EKFB																																																							4(UART)																						-40 to 125	PLQP0064KB-A																			
			R5F3577EJFE																																																							5(UART)																						-40 to 85	PLQP0080KB-A																			
			R5F3577EKFE																																																							4(UART)																						-40 to 125	PLQP0064KB-A																			
R5F3578EJFF	5(UART)	-40 to 85	PLQP0080KB-A																																																																																																	
R5F3578EKFF	4(UART)	-40 to 125	PLQP0064KB-A																																																																																																	
R5F3571EJFB	256K + 28K	8K(Data Flash)	8K(Data Flash), 4K(E2data Flash/ erase 100k times)	20K	8K(Data Flash)	Yes (ID Code Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes (Voltage detection 2)	8-bit x 1	Yes	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA)+1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	5(UART)	-	-	2(Multi master PC, UART)	2(1UART)+1(Serial bus interfacel)	-	LIN(1)	32MHz/3.0 to 5.5V	-40 to 85	PLQP0100KB-A																																																																
R5F3571EKFB																											4(UART)								-40 to 125	PLQP0064KB-A																																																																
R5F3572EJFE																											5(UART)								-40 to 85	PLQP0080KB-A																																																																
R5F3572EKFE																											4(UART)								-40 to 125	PLQP0064KB-A																																																																
R5F3573EJFF																											5(UART)								-40 to 85	PLQP0080KB-A																																																																
R5F3573EKFF																											4(UART)								-40 to 125	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

**M16C/50 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special I/O	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package		
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZData Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	16-bit	Input Capture	Output Compare		PWM output	Event Counter	2-Phase Encoder Input									3-Phase Inverter Control	Clock Sync./ Clock Async.
Car Audio, Body Electronics	M16C/50	M16C/5L	R5F35L30JFF	64K + 24K	4K	8K(Data Flash: program/erase 10k times)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C/60 core	91	31.25 (@32MHz)	4	-	5 circuits (Main clock, PLL, Sub clock, High-speed on-chip oscillator, Low-speed on-chip oscillator)	Yes	Yes	2 circuits (High speed : 40MHz, Low speed : 125kHz)	Yes	Yes	Yes (Voltage detection 2)	10-bit x 16	Yes	-	9(TimerA, TimerB, Task monitoring timer)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	8 (TimerA, TimerB)	3(TimerA) + 1(TimerS)	1(shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1(with automatic start function, clock source protection function, low-speed on-chip oscillator for watchdog timer)	4(UART)	-	-	2(Multi mast FC, UART)	1(UART)	55	-	32MHz/3.0 to 5.5V	-40 to 85	PLQP0064KB-A
			R5F35L30KFF	64K + 24K	4K															10-bit x 16											4(UART)					55			-40 to 125	PLQP0064KB-A
			R5F35L23JFE	96K + 24K	8K															10-bit x 27											5(UART)					71			-40 to 85	PLQP0080KB-A
			R5F35L23KFE	96K + 24K	8K															10-bit x 16											4(UART)					55			-40 to 125	PLQP0064KB-A
			R5F35L33JFF	96K + 24K	8K															10-bit x 27											5(UART)					71			-40 to 85	PLQP0080KB-A
			R5F35L33KFF	96K + 24K	8K															10-bit x 16											4(UART)					55			-40 to 125	PLQP0064KB-A
			R5F35L26JFE	128K + 24K	12K															10-bit x 27											5(UART)					71			-40 to 85	PLQP0080KB-A
		R5F35L26KFE	128K + 24K	12K	10-bit x 16															4(UART)											55					-40 to 125			PLQP0064KB-A	
		R5F35L36JFF	128K + 24K	12K	10-bit x 27															5(UART)											71					-40 to 85			PLQP0080KB-A	
		R5F35L36KFF	128K + 24K	12K	10-bit x 16															4(UART)											55					-40 to 125			PLQP0064KB-A	
		R5F35L2EJFE	256K + 24K	20K	10-bit x 27															5(UART)											71					-40 to 85			PLQP0080KB-A	
		R5F35L2EKFE	256K + 24K	20K	10-bit x 16															4(UART)											55					-40 to 125			PLQP0064KB-A	
		R5F35L3EJFF	256K + 24K	20K	10-bit x 27															5(UART)											71					-40 to 85			PLQP0080KB-A	
		R5F35L3EKFF	256K + 24K	20K	10-bit x 16															4(UART)											55					-40 to 125			PLQP0064KB-A	
	R5F35630JFF	64K + 24K	4K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F35630KFF	64K + 24K	4K	10-bit x 27	5(UART)	71	-40 to 85	PLQP0080KB-A																																
	R5F35623JFE	96K + 24K	8K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F35623KFE	96K + 24K	8K	10-bit x 27	5(UART)	71	-40 to 85	PLQP0080KB-A																																
	R5F35633JFF	96K + 24K	8K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F35633KFF	96K + 24K	8K	10-bit x 27	5(UART)	71	-40 to 85	PLQP0080KB-A																																
	R5F35626JFE	128K + 24K	12K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F35626KFE	128K + 24K	12K	10-bit x 27	5(UART)	71	-40 to 85	PLQP0080KB-A																																
	R5F35636JFF	128K + 24K	12K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F35636KFF	128K + 24K	12K	10-bit x 27	5(UART)	71	-40 to 85	PLQP0080KB-A																																
	R5F3562EJFE	256K + 24K	20K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F3562EKFE	256K + 24K	20K	10-bit x 27	5(UART)	71	-40 to 85	PLQP0080KB-A																																
	R5F3563EJFF	256K + 24K	20K	10-bit x 16	4(UART)	55	-40 to 125	PLQP0064KB-A																																
	R5F3563EKFF	256K + 24K	20K	10-bit x 27	5(UART)	71	-40 to 85	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

**M16C/Tiny Series**

Device				Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer							Serial Interface			Other Functions		Package								
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I <sup>2</sup> C-bus	SSU/Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Others	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)	Package
Car Audio, Body Electronics	M16C/Tiny	M16C/29	M30290M8T-XXXXHP	64K	4K	M	-	-	M16C/60 core	91	50 (@20MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	Yes	-	-	10-bit x 27	Yes	-	8 (TimerA, TimerB)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	8(TimerA, TimerB)	3(TimerA) + 1(TimerS)	1 (shared with TimerA4, TimerA1, TimerA2, TimerB2, Dead Time Timer)	1	3(UART)	-	2(Multi master I <sup>2</sup> C, UART)	1 (UART)	1	-	20MHz/3.0 to 5.5V	-40 to 85	PLQP0080KB-A		
			62.5 (@16MHz)								16MHz/4.2 to 5.5V										-40 to 125																					
			50 (@20MHz)								20MHz/3.0 to 5.5V										-40 to 85																					
			62.5 (@16MHz)								16MHz/4.2 to 5.5V										-40 to 125																					
			M30291M8T-XXXXHP	96K	8K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)			50 (@20MHz)										10-bit x 16																	2(SI/O)	71		20MHz/3.0 to 5.5V	-40 to 85
			62.5 (@16MHz)								10-bit x 27										1(SI/O)																	55	16MHz/4.2 to 5.5V		-40 to 125	
			50 (@20MHz)								10-bit x 16										2(SI/O)																	71	20MHz/3.0 to 5.5V		-40 to 85	
			62.5 (@16MHz)								10-bit x 27										1(SI/O)																	55	16MHz/4.2 to 5.5V		-40 to 125	
			M30291MAV-XXXXHP	96K + 4K	8K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)			50 (@20MHz)										10-bit x 16																	2(SI/O)	71		20MHz/3.0 to 5.5V	-40 to 85
			62.5 (@16MHz)								10-bit x 27										1(SI/O)																	55	16MHz/4.2 to 5.5V		-40 to 125	
			50 (@20MHz)								10-bit x 16										2(SI/O)																	71	20MHz/3.0 to 5.5V		-40 to 85	
			62.5 (@16MHz)								10-bit x 27										1(SI/O)																	55	16MHz/4.2 to 5.5V		-40 to 125	
			M30291FATHP	128K	12K	M	-	-			50 (@20MHz)										10-bit x 27																	2(SI/O)	71		20MHz/3.0 to 5.5V	-40 to 85
			62.5 (@16MHz)								10-bit x 16										1(SI/O)																	55	16MHz/4.2 to 5.5V		-40 to 125	
			50 (@20MHz)								10-bit x 27										2(SI/O)																	71	20MHz/3.0 to 5.5V		-40 to 85	
			62.5 (@16MHz)								10-bit x 16										1(SI/O)																	55	16MHz/4.2 to 5.5V		-40 to 125	
M30290MCT-XXXXHP	128K + 4K	12K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	50 (@20MHz)	10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																															
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
50 (@20MHz)						10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																																
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
M30290FCTHP	128K + 4K	12K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	50 (@20MHz)	10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																															
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
50 (@20MHz)						10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																																
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
M30290FCVHP	128K + 4K	12K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	50 (@20MHz)	10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																															
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
50 (@20MHz)						10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																																
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
M30291FCTHP	128K + 4K	12K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	50 (@20MHz)	10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																															
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
50 (@20MHz)						10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																																
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
M30291FCVHP	128K + 4K	12K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	50 (@20MHz)	10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																															
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 to 5.5V	-40 to 125																																
50 (@20MHz)						10-bit x 27	2(SI/O)	71	20MHz/3.0 to 5.5V	-40 to 85																																
62.5 (@16MHz)						10-bit x 16	1(SI/O)	55	16MHz/4.2 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



### M16C/Tiny Series

Device		Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC		DAC		Timer						Serial Interface		Other Functions		Package																																																				
Application	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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	I <sup>2</sup> C-bus	SSU/Special Serial I/O	CAN Channels	I/O Ports (Numbers)	Others	Operating Frequency/Supply Voltage	Operating Ambient Temperature(°C)																																								
Car Audio, Body Electronics	M16C/26A M16C/26T		M30260F3TGP	24K + 4K	1K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	-	-	-	10-bit x 12	Yes	-	8 (TimerA, TimerB)	-	-	-	5(TimerA)	3(TimerA)	1	3(UART)	-	-	1(UART)	-	-	-	-	-	39	-	20MHz/ 3.0 to 5.5V	-40 to 85	PLQP0048KB-A																																						
			M30260F6TGP	48K + 4K	2K																																					64K + 4K																																								
			M30260F8TGP	64K + 4K	2K																																																																													
			M30260F8VGP**	64K + 4K	2K																																																																													
	M16C/Tiny	M16C/28		M30280M8TXXXHP	64K	4K	M	-	-	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	4 circuits (Main clock, PLL, Sub clock, on-chip oscillator)	Yes	-	Yes	-	-	-	10-bit x 27	Yes	-	8 (TimerA, TimerB)	8(TimerS)	8(TimerS)	13(TimerA, TimerS)	3(TimerA) +1(TimerS)	1	3(UART)	-	-	2(Multi master I <sup>2</sup> C, UART)	-	-	-	-	-	71	-	16MHz/ 4.2 to 5.5V	-40 to 125	PLQP0080KB-A																																						
				M30280M8VXXXHP																																						96K	M		-	-	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	-	20MHz/3.0 to 5.5V	-40 to 85	PLQP0064KB-A			
				M30281M8TXXXHP																																																																									96K + 4K	F		4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core
				M30280MATXXXHP																																						96K + 4K	F		4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	-			20MHz/3.0 to 5.5V			
				M30280MAVXXXHP																																																																									96K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91
				M30281MATXXXHP																																						96K + 4K	F		4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
				M30281MAVXXXHP																																																																									96K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91
				M30281FATHP																																						96K + 4K	F		4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
	M30281FAVHP	96K + 4K	F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)	M16C60 core	91	50 (@20MHz) 62.5 (@16MHz)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	-			16MHz/4.2 to 5.5V																																	-40 to 125	PLQP0064KB-A				

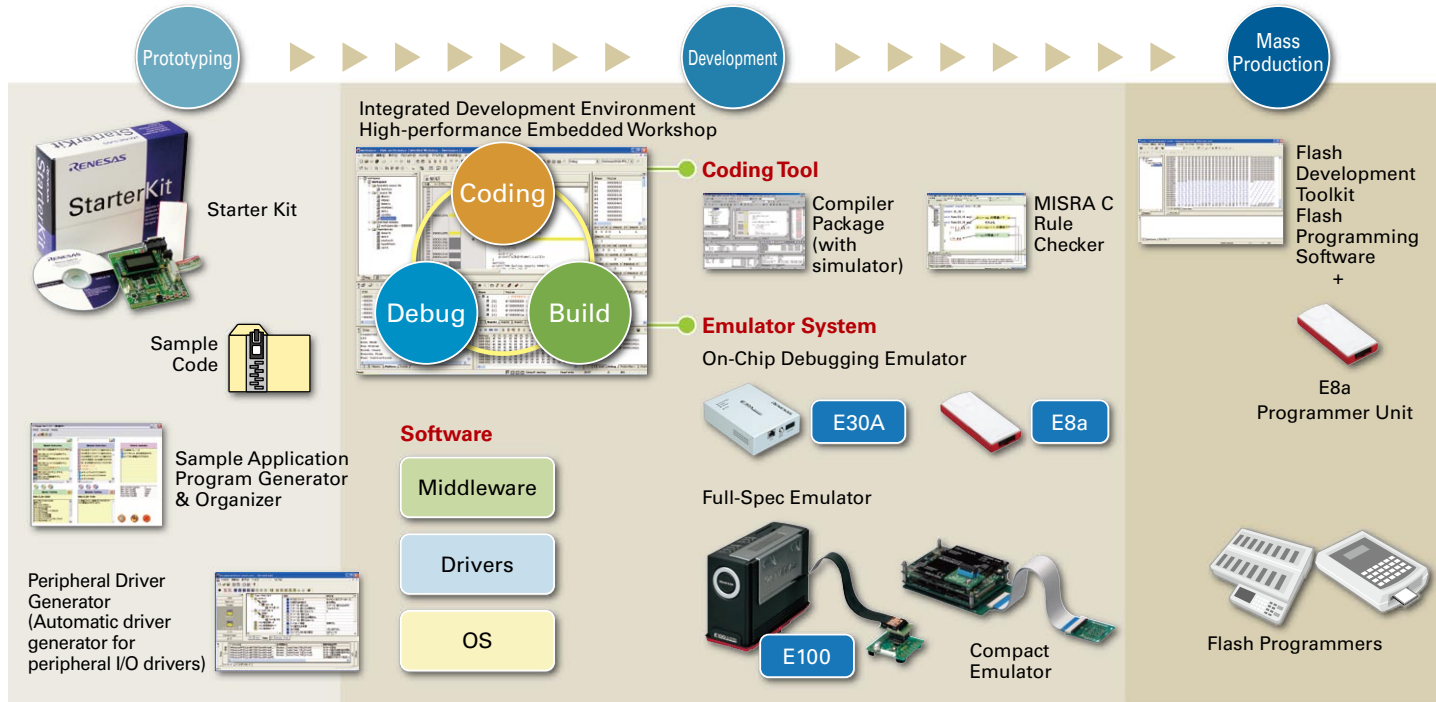
★ : New product    ★★ : Under development  
 \*F : Flash memory version, L : ROM-less version, M : Mask ROM version, O : One-time PROM version, Qz : QzROM version

**M16C/10 Series**

Application	Device			Memory				CPU		DMA		Clock				Power Supply Voltage Detection		ADC	DAC	Timer						Watchdog Timer	Serial Interface			I <sup>2</sup> C-bus	SSU/ Special Serial I/O Channels	CAN	I/O Ports	Other Functions	Operating Frequency/ Supply Voltage	Operating Ambient Temperature (°C)	Package															
	Series	Group	Part No.	ROM (bytes)	RAM (bytes)	ROM Type	Data Flash/ EZdata Flash	Program Security	CPU	Basic Instructions	Minimum Instruction Execution Time (ns)	DMAC (Channels)	DTC/DMACII	Clock Generation Circuit	Subclock	RTC	On-Chip Oscillator	Oscillation Stop Detection	POR (Power-On Reset)	LVD (Low Voltage Detection)	Resolution x Channels	Sample and Hold	Resolution x Channels	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										
Car Audio, Body Electronics	M16C/10	M16C/1N	M301N2M4TXXXXFP	32K	1K	M	-	-	M16C/60 core	91	62.5 (@16MHz)	-	-	3 circuits (Main clock, Sub clock, On-chip oscillator)	Yes	-	Yes	-	-	10-bit x 14	Yes	8-bit x 1	1 (TimerC)	1 (TimerC)	-	2(TimerY, TimerZ)	1 (TimerX)	-	-	1	2 (UART)	-	-	-	-	1	37	-	16MHz/ 4.2 to 5.5V	-40 to 85	-40 to 125	-40 to 85	-40 to 125	-40 to 85	-40 to 125	PLQP0048KB-A						
			M301N2M4VXXXXFP*																																																	
			M301N2M8TXXXXFP	64K	3K																																										F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)			
			M301N2M8VXXXXFP*																																																	
			M301N2F8TFF	64K + 4K	3K																																													F	4K(Data Flash)	Yes (ID Code Check Function, ROM Code Protect Function)
			M301N2F8VFP																																																	

★ : New product    ★★ : Under development

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



\*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 compiler package.

■ M16C Family Development Tool Lineup

MCU	Real Time OS	Software Tool	Emulator		Programming Tool
			On-Chip Debugging Emulator	Full-Spec Emulator/ Compact Emulator	Programmer*4
R32C/100 Series	M3T-MR100/4	C/C++ Compiler Package for R8C and M16C (R32C/M32C/M16C) Families*1 (An integrated development environment*2, compiler and simulator are included. The emulator-debugger is bundled with the emulator.)	E30A, E8a	-	E8a*5
M32C/80 Series	M3T-MR308/4		E8a	Compact Emulator	
M16C/60 Series	M3T-MR30/4		E8a	E100, Compact Emulator	
M16C/50 Series			E8a	E100	
M16C/30 Series			E8a	Compact Emulator	
M16C/20, M16C/10 Series			-	PC4701U*3	
M16C/Tiny Series			E8a	Compact Emulator	

\*1. The R32C Series and M32C Series are not compatible with C++.  
 \*2. The High-performance Embedded Workshop is provided as an integrated development environment.  
 \*3. No longer available (Support for pre-existing users continues).  
 \*4. This programmer is for Renesas Flash on-board microcontrollers.  
 \*5. The E8a is usable with the Flash Development Toolkit [R0C00000FDW04R] (Free evaluation version available).  
 \*For information about microcontrollers compatible with the emulator or emulator specifications, access the website: [http://www.renesas.com/emulation\\_debugging](http://www.renesas.com/emulation_debugging)  
 Compatible emulators may vary according to the microcontroller part number.

## M16C Tool

### Get up and running quickly: Starter kit

Want to start evaluating the M16C 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:

- M16C 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 M16C Family

Target Device		Product Name	Part Number
Series	Group		
R32C/100	R32C/116, 117, 118	Renesas Starter Kit for R32C/118	R0K564189S000BE
	R32C/111	Renesas Starter Kit for R32C/111	R0K564112S000BE
M32C/80	M32C/84, 85, 87, 88	Renesas Starter Kit for M32C/87	R0K330879S001BE
M16C/60	M16C/6C	Renesas Starter Kit for M16C/6C	R0K536CAMS000BE
	M16C/65, 64A	Renesas Starter Kit for M16C/65	R0K53650ES000BE
	M16C/62P, 30P	Renesas Starter Kit for M16C/62P	R0K33062PS001BE
M16C/Tiny	M16C/28, 29	Renesas Starter Kit for M16C/29	R0K33029S001BE

Visit this website for information about development environment products.

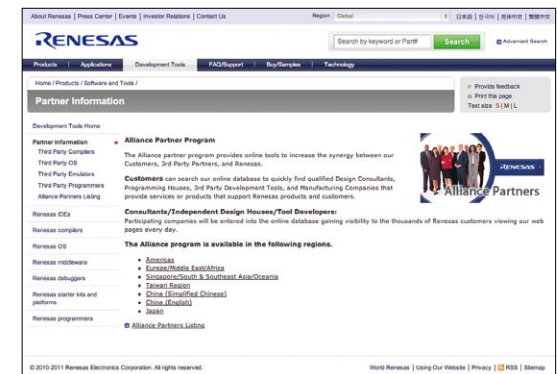
## M16C Family Development Environment Site

[http://www.renesas.com/m16c\\_tools](http://www.renesas.com/m16c_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 partner products and services.  
<http://www.renesas.com/partners>

# Renesas Microcomputer M16C Family Selection Guide

## Renesas Electronics Corporation

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