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What is "[Embedded - Microcontrollers](#)"?

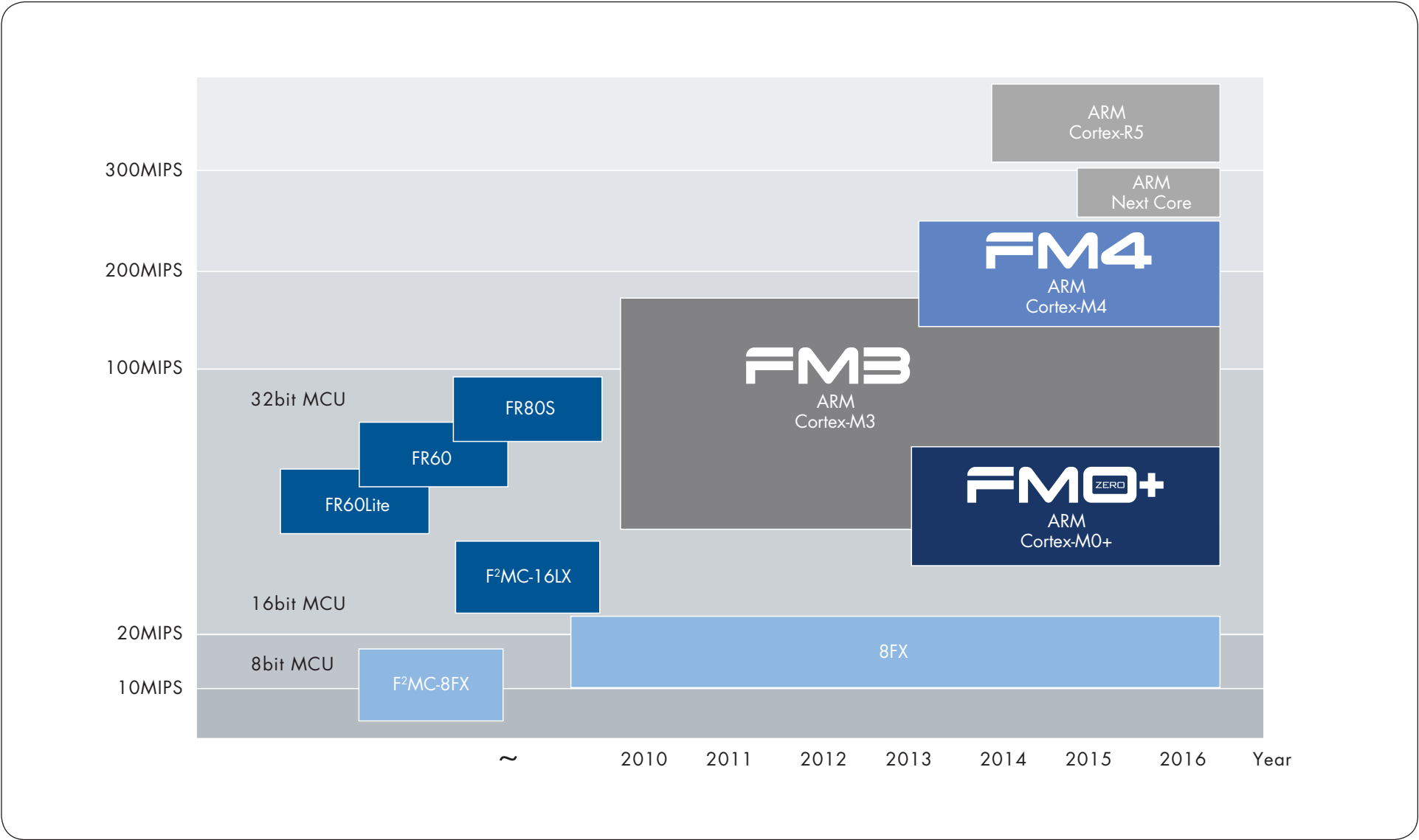
"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "[Embedded - Microcontrollers](#)"

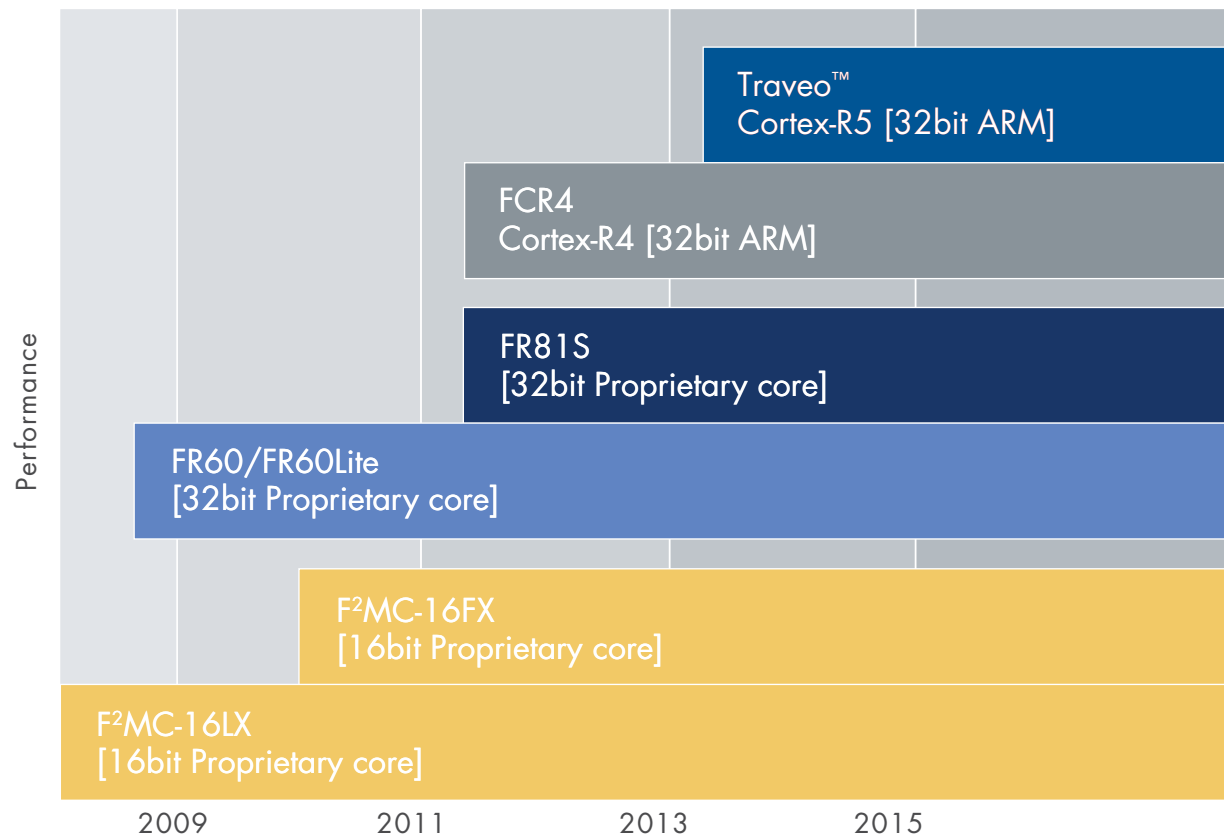
Details

Product Status	Obsolete
Core Processor	F ² MC-8FX
Core Size	8-Bit
Speed	16MHz
Connectivity	I ² C, SIO, UART/USART
Peripherals	LCD, POR, PWM, WDT
Number of I/O	74
Program Memory Size	20KB (20K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	512 x 8
Voltage - Supply (Vcc/Vdd)	1.8V ~ 5.5V
Data Converters	A/D 8x8/12b
Oscillator Type	External
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	80-LQFP
Supplier Device Package	80-LQFP (12x12)
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/mb95f714mnpmc-g-sne2

Consumer and Industrial MCU Core Roadmap



Automotive MCU Core Roadmap



Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer							Serial				Communication			Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/S [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]		
S6E2HG	S6E2HG6E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K + 32K	64K	-	8	16	✓	63	-	16 (3)	-	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	2	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HG6F0A		LQFP-100																													
	S6E2HG6G0A		LQFP-120 BGA-121																													
	S6E2HG4E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	8	16	✓	63	-	16 (3)	-	AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HG4F0A		LQFP-100																													
	S6E2HG4G0A		LQFP-120 BGA-121																													
S6E2HE	S6E2HE6E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K + 32K	64K	-	8	16	✓	63	-	16 (3)	-	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HE6F0A		LQFP-100																													
	S6E2HE6G0A		LQFP-120 BGA-121																													
	S6E2HE4E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	8	16	✓	63	-	16 (3)	-	AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HE4F0A		LQFP-100																													
	S6E2HE4G0A		LQFP-120 BGA-121																													
S6E2H4	S6E2H46E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K + 32K	64K	-	8	16	✓	63	-	16 (3)	-	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	2	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H46F0A		LQFP-100																													
	S6E2H46G0A		LQFP-120 BGA-121																													
	S6E2H44E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	8	16	✓	63	-	16 (3)	-	AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H44F0A		LQFP-100																													
	S6E2H44G0A		LQFP-120 BGA-121																													
S6E2H1	S6E2H16E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K + 32K	64K	-	8	16	✓	63	-	16 (3)	-	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H16F0A		LQFP-100																													
	S6E2H16G0A		LQFP-120 BGA-121																													
	S6E2H14E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	8	16	✓	63	-	16 (3)	-	AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H14F0A		LQFP-100																													
	S6E2H14G0A		LQFP-120 BGA-121																													
S6E2GM w/security	S6E2GM8HHA	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K																								

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [pin]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer							Serial				Communication				Note	Evaluation Device							
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]			USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter				
S6E2CC-V	S6E2CCAJGA	200	LQFP-176 BGA-192	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	152	-	32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch, Chipher, Voice	On-Chip Debug (SWJ-DP/ETM/ HTM)													
	1M		128K																																					
	2M		256K																																					
	1M		128K																																					
S6E2CC w/ Security	S6E2CCAHHH	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	152	-	32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch, Chipher	On-Chip Debug (SWJ-DP/ETM/ HTM)													
	S6E2CCAJHA		LQFP-176 BGA-192																									152	32 (3)											
	S6E2CCALHA		LQFP-216																									190	24 (3)											
	S6E2CC9HHA		LQFP-144																									120	24 (3)											
	S6E2CC9JHA		LQFP-176 BGA-192				1.5M	192K					1M	128K	152	-												32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch, Chipher	On-Chip Debug (SWJ-DP/ETM/ HTM)
	S6E2CC9LHA		LQFP-216				190	24 (3)																																
	S6E2CC8HHA		LQFP-144				120	24 (3)																																
	S6E2CC8JHA		LQFP-176 BGA-192				152	32 (3)																																
S6E2CC8LHA	LQFP-216	190	24 (3)																																					
S6E2CC	S6E2CCAH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	152	-	32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch	On-Chip Debug (SWJ-DP/ETM/ HTM)													
	S6E2CCAJ0A		LQFP-176 BGA-192																									152	32 (3)											
	S6E2CCAL0A		LQFP-216																									190	24 (3)											
	S6E2CC9H0A		LQFP-144																									120	24 (3)											
	S6E2CC9J0A		LQFP-176 BGA-192				1.5M	196K					1M	128K	152	-												32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch	On-Chip Debug (SWJ-DP/ETM/ HTM)
	S6E2CC9L0A		LQFP-216				190	24 (3)																																
	S6E2CC8H0A		LQFP-144				120	24 (3)																																
	S6E2CC8J0A		LQFP-176 BGA-192				152	32 (3)																																
S6E2CC8L0A	LQFP-216	190	24 (3)																																					
S6E2C5	S6E2C5AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	152	-	32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC	On-Chip Debug (SWJ-DP/ETM/ HTM)													
	S6E2C5AJ0A		LQFP-176 BGA-192																									152	32 (3)											
	S6E2C5AL0A		LQFP-216																									190	24 (3)											
	S6E2C59H0A		LQFP-144																									120	24 (3)											
	S6E2C59J0A		LQFP-176 BGA-192				1.5M	192K					1M	12																										

FM4 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch](unit)	12bit AD Converter [ch](unit)	DA Converter [bit x ch]	Timer									Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]					USB-Function [ch]																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
MB9B160R	MB9BF166M	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	16	✓	63	-	16(3)	12 x 2	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, DSTC x 128ch, Unique ID, SD Card I/F	On-chip Debug (SWJ-DP/ETM)																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	MB9BF166N		LQFP-100 QFP-100 BGA-112										80		24(3)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	MB9BF166R		LQFP-120 BGA-144										100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	MB9BF167M		LQFP-80				63	16(3)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

FM4 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch(unit)]	12bit AD Converter [ch(unit)]	DA Converter [bit x ch]	Timer								Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]				
MB9B460L	MB9BF464K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	-	-	12 x 2		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)	1	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)							
	MB9BF464L		LQFP-64 QFN-64																										16	48	15(2)	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			
	MB9BF465K		LQFP-48 QFN-48																														15	33	8(2)
	MB9BF465L		LQFP-64 QFN-64				16	48																											
	MB9BF466K		LQFP-48 QFN-48																										15	33	8(2)	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			
	MB9BF466L		LQFP-64 QFN-64																														512K +32K	64K	16

FM4 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]				
MB9B360L	MB9BF364K	160	LQFP-48 QFN-48	2.7 to 5.5 2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	-	12 x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)								Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)			
	MB9BF364L		LQFP-64 QFN-64												Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF365K		LQFP-48 QFN-48												Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF365L		LQFP-64 QFN-64				384K +32K	48K							Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF366K		LQFP-48 QFN-48												Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF366L		LQFP-64 QFN-64												Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				

FM3 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer							Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device	
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI ² [ch]	SIO [ch]	LIN/UART/SIO [ch]					CAN [ch]
HIGH-PERFORMANCE GROUP																																		
MB9BD10T	MB9BFD16T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	2	2ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer, Ethernet-MAC x 2ch	On-chip Debug (SWJ-DP/ETM)					
	MB9BFD16S		LQFP-144				768K	96K																										
	MB9BFD17T		LQFP-176 BGA-192				768K	96K																										
	MB9BFD17S		LQFP-144				768K	96K																										
	MB9BFD18T		LQFP-176 BGA-192				1M	128K																										
	MB9BFD18S		LQFP-144				1M	128K																										
MB9B610T	MB9BF616T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Ethernet-MAC x 2ch	On-chip Debug (SWJ-DP/ETM)					
	MB9BF616S		LQFP-144				768K	96K																										
	MB9BF617T		LQFP-176 BGA-192				768K	96K																										
	MB9BF617S		LQFP-144				768K	96K																										
	MB9BF618T		LQFP-176 BGA-192				1M	128K																										
	MB9BF618S		LQFP-144				1M	128K																										
MB9B510T	MB9BF516T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	2	2ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)					
	MB9BF516S		LQFP-144				768K	96K																										
	MB9BF517T		LQFP-176 BGA-192				768K	96K																										
	MB9BF517S		LQFP-144				768K	96K																										
	MB9BF518T		LQFP-176 BGA-192				1M	128K																										
	MB9BF518S		LQFP-144				1M	128K																										
MB9B410T	MB9BF416T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	2	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)				
	MB9BF416S		LQFP-144				768K	96K																										
	MB9BF417T		LQFP-176 BGA-192				768K	96K																										
	MB9BF417S		LQFP-144				768K	96K																										
	MB9BF418T		LQFP-176 BGA-192				1M	128K																										
MB9B310T	MB9BF316T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)					
	MB9BF316S		LQFP-144				768K	96K																										
	MB9BF317T		LQFP-176 BGA-192				768K	96K																										
	MB9BF317S		LQFP-144				768K	96K																										
	MB9BF318T		LQFP-176 BGA-192				1M	128K																										
	MB9BF318S		LQFP-144				1M	128K																										
MB9B210T	MB9BF216T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Ethernet-MAC x 1ch	On-chip Debug (SWJ-DP/ETM)					
	MB9BF216S		LQFP-144				768K	96K																										
	MB9BF217T		LQFP-176 BGA-192				768K	96K																										
	MB9BF217S		LQFP-144				768K	96K																										
	MB9BF218T		LQFP-176 BGA-192				1M	128K																										
	MB9BF218S		LQFP-144				1M	128K																										
MB9B110T	MB9BF116T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	-	-	-	Multi-Function Timer x 3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	-	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	-	-	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)				
	MB9BF116S		LQFP-144				768K	96K																										
	MB9BF117T		LQFP-176 BGA-192				768K	96K																										
	MB9BF117S		LQFP-144				768K	96K																										
	MB9BF118T		LQFP-176 BGA-192				1M	128K																										
	MB9BF118S		LQFP-144				1M	128K																										

FM3 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [bit]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial				Communication			Note	Evaluation Device	
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/ISI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]			USB-Function [ch]
BASIC GROUP																																		
MB9B320M	MB9BF321K	72	LQFP-48 QFN-48	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	64K +32K	16K	-	8	14	-	35	-	14(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	1	QPRC x 1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)				-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Unique ID, Real Time Clock	On-chip Debug (SWJ-DP)				
	MB9BF321L		LQFP-64 QFN-64																		19	50	23(2)	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF321M		LQFP-80 BGA-96																		23	65	26(2)	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF322K		LQFP-48 QFN-48																		14	35	14(2)	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF322L		LQFP-64 QFN-64				19	50			23(2)		256K +32K		32K					14	35	14(2)	QPRC x 1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF322M		LQFP-80 BGA-96				23	65			26(2)													Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF324K		LQFP-48 QFN-48				14	35			14(2)													Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF324L		LQFP-64 QFN-64				19	50			23(2)													Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF324M		LQFP-80 BGA-96				23	65			26(2)		Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)																					
MB9B120M	MB9BF121K	72	LQFP-48 QFN-48	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	64K +32K	16K	-	8	14	-	35	-	14(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	1	QPRC x 1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)				-	-	-	-	✓	Dual Timer, Unique ID, Real Time Clock	On-chip Debug (SWJ-DP)			
	MB9BF121L		LQFP-64 QFN-64																		19	50	23(2)	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF121M		LQFP-80 BGA-96																		23	65	26(2)	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF122K		LQFP-48 QFN-48																		14	35	14(2)	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF122L		LQFP-64 QFN-64				19	50			23(2)		256K +32K		32K					14	35	14(2)	QPRC x 1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF122M		LQFP-80 BGA-96				23	65			26(2)													Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF124K		LQFP-48 QFN-48				14	35			14(2)													Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF124L		LQFP-64 QFN-64				19	50			23(2)													Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF124M		LQFP-80 BGA-96				23	65			26(2)		Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)																					
MB9B120J	MB9BF121J	72	LQFP-32 QFN-32	2.7 to 5.5	✓	FLASH	64K	8K	-	4	7	-	23	-	8(1)	-	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)				-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID	On-chip Debug (SW-DP)			
MB9B520T	MB9BF528S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	-	8	32	✓	122	-	24(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)				1	1ch (USB-Host/ USB-Function Selectable)			-	✓	CAN: 32Msg-buffer, Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)		
	MB9BF528T*		LQFP-176 BGA-192				154	QPRC x 2																										
	MB9BF529S*		LQFP-144				122	QPRC x 1																										
	MB9BF529T*		LQFP-176 BGA-192				154	QPRC x 2																										
MB9B420T	MB9BF428S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	-	8	32	✓	122	-	24(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)				1	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)			
	MB9BF428T*		LQFP-176 BGA-192				154	QPRC x 2																										
	MB9BF429S*		LQFP-144				122	QPRC x 1																										
	MB9BF429T*		LQFP-176 BGA-192				154	QPRC x 2																										

FM3 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]				
BASIC GROUP																																			
MB9B320T	MB9BF328S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	-	8	32	✓	-	24(2)	10bit x 2		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1 QPRC x 2 QPRC x 1 QPRC x 2	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)		-	✓	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)							
	MB9BF328T*		LQFP-176 BGA-192				1.5M +64K	192K																											
	MB9BF329S*		LQFP-144																																
	MB9BF329T*		LQFP-176 BGA-192																																
MB9B120T	MB9BF128S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	-	8	32	✓	-	24(2)	10bit x 2		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1 QPRC x 2 QPRC x 1 QPRC x 2	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	-	-	✓	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)						
	MB9BF128T*		LQFP-176 BGA-192				1.5M +64K	192K																											
	MB9BF129S*		LQFP-144																																
	MB9BF129T*		LQFP-176 BGA-192																																
MB9A420L	MB9AF421K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	FLASH	64K	4K	-	-	14	-	-	8(1)	10bit x 1		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 3ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)	1	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP)							
	MB9AF421L		LQFP-64 QFN-64				19	51																											
MB9A120L	MB9AF121K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	FLASH	64K	4K	-	-	14	-	-	8(1)	10bit x 1		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 3ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP)							
	MB9AF121L		LQFP-64 QFN-64				19	51																											

FM3 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device		
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [ch]
BASIC GROUP																																				
MB9A110A	MB9AF111LA	40	LQFP-64 QFN-64	2.7 to 5.5	✓	FLASH	64K	16K	-	8	8	-	51	-	9(2)	-	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)					Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer	On-chip Debug (SWJ-DP)				
	MB9AF111MA		LQFP-80								11		66		12(3)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																			
	MB9AF111NA		LQFP-100 QFP-100 BGA-112								16	✓	83		16(3)		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																			
	MB9AF112LA	40	LQFP-64 QFN-64				128K	16K	-	8	8	-	51	-	9(2)		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																			
	MB9AF112MA		LQFP-80				11					66	12(3)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																					
	MB9AF112NA		LQFP-100 QFP-100 BGA-112				16				✓	83	16(3)		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																					
	MB9AF114LA	40	LQFP-64 QFN-64				256K	32K	-	8	8	-	51	-	9(2)		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																			
	MB9AF114MA		LQFP-80								11		66		12(3)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																			
	MB9AF114NA		LQFP-100 QFP-100 BGA-112								16		83		16(3)																					
	MB9AF115MA		LQFP-80				11					66	12(3)																							
	MB9AF115NA		LQFP-100 QFP-100 BGA-112**				16				✓	83	16(3)																							
	MB9AF116MA		LQFP-80				11					66	12(3)																							
	MB9AF116NA		LQFP-100 QFP-100 BGA-112**				16					83	16(3)																							
MB9A310K	MB9AF311K	40	LQFP-48 QFN-52 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	64K +32K	16K	-	4	6	-	36	-	8(2)	-	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)					Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Time Clock	On-chip Debug (SWJ-DP)					
	MB9AF312K		128K +32K																																	
MB9A110K	MB9AF111K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	64K+ 32K	16K	-	4	6	-	36	-	8(2)	-	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)					Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Time Clock	On-chip Debug (SWJ-DP)					

FM3 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit/AD Converter [ch/unit]	12bit/AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device																																							
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [ch]																																					
LOW-POWER GROUP																																																																									
MB9A340NA	MB9AF341LB	40	LQFP-64 QFN-64	1.65 to 3.6	✓	Dual Op. Flash (Main area + Work area)	64K +32K	16K	-	8	8	-	51	-	12(2)	-	-	-	-	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	-	-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP)																																								
	MB9AF341MB		LQFP-80 BGA-96								11	-	66		17(2)																																																										
	MB9AF341NB		LQFP-100 QFP-100 BGA-112								16	✓	83		24(2)																																																										
	MB9AF342LB		LQFP-64 QFN-64								8	-	51		12(2)																																																										
	MB9AF342MB		LQFP-80 BGA-96				128K +32K	32K			11	-	66	17(2)	-																		-	-	-	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	-	-	-	-	-	-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)																				
	MB9AF342NB		LQFP-100 QFP-100 BGA-112				16				✓	83	24(2)																																																												
	MB9AF344LB		LQFP-64 QFN-64				8				-	51	12(2)																																																												
	MB9AF344MB		LQFP-80 BGA-96				11				-	66	17(2)																																																												
MB9AF344NB	LQFP-100 QFP-100 BGA-112	16	✓	83	24(2)																																																																				
MB9A140NA	MB9AF141LB	40	LQFP-64 QFN-64	1.65 to 3.6	✓	Dual Op. Flash (Main area + Work area)	64K +32K	16K	-	8	8	-	51	-	12(2)	-	-	-	-	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	-	-	-	-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP)																																									
	MB9AF141MB		LQFP-80 BGA-96								11	-	66		17(2)																																																										
	MB9AF141NB		LQFP-100 QFP-100 BGA-112								16	✓	83		24(2)																																																										
	MB9AF142LB		LQFP-64 QFN-64				128K +32K	16K			8	-	51	-	12(2)																	-	-	-	-	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	-	-	-	-	-	-	-	-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)																					
	MB9AF142MB		LQFP-80 BGA-96								11	-	66		17(2)																																																										
	MB9AF142NB		LQFP-100 QFP-100 BGA-112								16	✓	83		24(2)																																																										
	MB9AF144LB		LQFP-64 QFN-64				256K +32K	32K			8	-	51	-	12(2)																																						-	-	-	-	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	-	-	-	-	-	-	-	-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)
	MB9AF144MB		LQFP-80 BGA-96								11	-	66		17(2)																																																										
	MB9AF144NB		LQFP-100 QFP-100 BGA-112								16	✓	83		24(2)																																																										

FM0 + Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]				
S6E1A	S6E1A11B0A	40	LQFP-32 QFN-32	2.7 to 5.5	✓	Flash	56K	6K	-	2	8	-	23	-	5(1)	-	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 4ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 3ch (UART/CSIO/I ² C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, Fast I/O	On-chip Debug (SW-DP/MTB)							
	S6E1A11C0A		LQFP-48 QFN-52 QFN-48				37						8(1)																					
	S6E1A12B0A		LQFP-32 QFN-32				23						5(1)																					
	S6E1A12C0A		LQFP-48 QFP-52 QFN-48				37						8(1)																					
S6E1B8 w/security	S6E1B86GHA	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	40 SEG x 8 COM / 44 SEG x 4 COM	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F, Chipper	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B84GHA		256K + 40K				32K	32 SEG x 8 COM / 36 SEG x 4 COM																										
	S6E1B86FHA		512K + 40K				64K	20 SEG x 8 COM / 24 SEG x 4 COM																										
	S6E1B84FHA		256K + 40K				32K																											
	S6E1B86EHA		512K + 40K				64K																											
	S6E1B84EHA		256K + 40K				32K																											
S6E1B8	S6E1B86G0A	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	40 SEG x 8 COM / 44 SEG x 4 COM	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B84G0A		256K + 40K				32K	32 SEG x 8 COM / 36 SEG x 4 COM																										
	S6E1B86F0A		512K + 40K				64K	20 SEG x 8 COM / 24 SEG x 4 COM																										
	S6E1B84F0A		256K + 40K				32K																											
	S6E1B86E0A		512K + 40K				64K																											
	S6E1B84E0A		256K + 40K				32K																											
S6E1B3	S6E1B36G0A	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B34G0A		256K + 40K				32K	-																										
	S6E1B36F0A		512K + 40K				64K	-																										
	S6E1B34F0A		256K + 40K				32K	-																										
	S6E1B36E0A		512K + 40K				64K	-																										
	S6E1B34E0A		256K + 40K				32K	-																										
S6E1B1	S6E1B16G0A	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	-	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B14G0A		256K + 40K				32K	-																										
	S6E1B16F0A		512K + 40K				64K	-																										
	S6E1B14F0A		256K + 40K				32K	-																										
	S6E1B16E0A		512K + 40K				64K	-																										
	S6E1B14E0A		256K + 40K				32K	-																										

FM0 + Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer							Serial			Communication			Note	Evaluation Device	
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SIO [ch]	SIO [ch]	LIN/UART/SIO [ch]			CAN [ch]
S6E1C3	S6E1C32D0A	40	LQFP-64	1.65 to 3.6	✓	Main Flash	128K	16K	-	-	12	-	54	-	8	-	-	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, Wakeup I2C, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP)					
	64K						12K																									
	S6E1C32C0A		LQFP-48				128K	16K																				9	38	6	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C31C0A						WLCSP-26	128K																				16K	5	20		
	S6E1C32B0A		LQFP-32				128K	16K																				7	24	6	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)
	S6E1C31B0A						QFN-64	64K																				12K	12	54		
	S6E1C32D0A		QFN-48				128K	16K																				9	38	6	Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C31D0A						QFN-32	64K																				12K	7	24		
	S6E1C32C0A		QFN-32				128K	16K																				9	38	8	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C31C0A						QFN-48	64K																				12K	12	54		
S6E1C32B0A	QFN-32	128K	16K	7	24	8	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)																								
S6E1C31B0A		QFN-48	64K	12K	12	54			6	Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)																					
S6E1C1	S6E1C12D0A	40	LQFP-64	1.65 to 3.6	✓	Main Flash	128K	16K	-			-	12	-	54	-	8	-	-	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)	-	-	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP)			
	64K						12K																									
	S6E1C11D0A		LQFP-48				128K	16K		9	38																			6	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C12C0A						128K	16K		7	24																			8		
	S6E1C11C0A		LQFP-32				128K	16K		12	54																			6	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C12B0A						QFN-64	64K		12K	9																			38		
	S6E1C12D0A		QFN-48				128K	16K		7	24																			6	Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C11D0A						QFN-32	64K		12K	12																			54		
	S6E1C12C0A		QFN-32				128K	16K		9	38																			6	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C11C0A						QFN-48	64K		12K	7																			24		
	S6E1C12B0A		QFN-32				128K	16K		12	54																			6	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 4ch (UART/CSIO/I2C Selectable)
	S6E1C11B0A						QFN-48	64K		12K	9																			38		

Traveo Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC[V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	12bit AD Converter [ch/unit]	12bit AD Converter with 4ch sample & hold	DA Converter [bit x ch]	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I2C [ch]	UART/S [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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MB9D560	MB9DF564MA	200	TEQFP -208	1.1 to 1.3 4.5 to 5.5	-	Main Flash +Work Flash	(640K +64K) x2	64K x2	-	16	8	-	125	32(1)	8(2)	10bit x 2	32bitFree-Run Timer x 5ch	16bit Base Timer x 12ch (PWM/PPG/Reload/PWC Selectable)	32bitInput Capture x 3unit 6ch	16bit Free-Run Timer x 20ch	16bit Input Capture x 8unit 15ch	16bitOutput Compare x 12unit 24ch	Waveform Generator x 4unit 24ch	4	-	Multi Function Serial x 5ch (LIN/UART/SIO Selectable)	3	-	-	-	✓	ARM Cortex-R5 CAN: 64msb, RDC x 2unit, Motor vector accelaretor x 2unit	On-Chip Debug																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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	MB9DF566MA						(1152K +64K) x2	128K x2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

Traveo Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	12bit AD Converter [ch/unit]	12bit AD Converter with 4ch sample & hold	DA Converter [bit x ch]	Timer										Serial			Communication			Three-phase Inverter	Note	Evaluation Device			
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I2C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]	LCD Controller [seg x com]					
CAN/AUTOMOTIVE																																						
S6J3110	S6J3118HA	96	TEQFP -144	4.5 to 5.25	-	Main Flash +Work Flash	576K + 48K	TC-RAM: 32KB System - RAM: 16KB Backup - RAM: 8KB	Instruction: 16 Data: 16	16	16	-	116	56(2)	-	-	12	6	12	16bit Base Timer x 30ch (PWM/PPG/Reload/PWC Selectable)	-	RTC x 1ch	Multi Function Serial x 4ch (LIN/UART/SIO Selectable)	CAN - FD x 1ch	-	-	-	-	ARM Cortex-R5, SHE(Secure Hardware Extension),	On-Chip Debug								
	S6J3119HA						832K + 48K	TC-RAM: 48KB System - RAM: 16KB Backup - RAM: 8KB																														
	S6J311AHA						1088K + 48K	TC-RAM: 64KB System - RAM: 16KB Backup - RAM: 8KB																														
	S6J311BHA	144	TEQFP -176				1600K + 112K	192K															64(2)	Multi Function Serial x 22ch (LIN/UART/SIO Selectable)	CAN - FD x 2ch													
	S6J311CHA						2112K + 112K	256K																														
	S6J311DHA						3136K + 112K	320K																														
	S6J311EHA						4160K + 112K	TC-RAM: 64KB System - RAM: 256KB Backup - RAM: 64KB																														
	S6J311BJA						1600K + 112K	192K																														
	S6J311CJA						2112K + 112K	256K																														
	S6J311DJA						3136K + 112K	320K																														
S6J311EJA	4160K + 112K	TC-RAM: 64KB System - RAM: 256KB Backup - RAM: 64KB																																				

Series Name		Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub-Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer							Serial			Communication		Note	Evaluation Device																
																		Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/S [ch]	SIO [ch]			LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter										
CAN/AUTOMOTIVE																																															
MB91520	MB91F522B	LQFP-64	80	2.7 to 5.5	Main Flash +Work Flash	320K+64K	56K	-	16	16	-	44	13(1) 13(1)	8bit x 1	16bit x 6 32bit x 4	16bit x 4 32bit x 5	Reload Timer x 7ch + PPG Timer x 21ch (Reload/PPG/PWM/PWC Selectable)	2	-	Multi Function Serial x 8ch (LIN/UART/SIO/I2C Selectable)			3	-	-	-	✓	LIN, FPU, MPU, Tuning RAM MB91520B/D/F/J/K/L series: CAN: 64Msg-buffer x 2ch, 128Msg-buffer x 1ch, MB91520R/U/M/Y series: CAN: 128Msg-buffer x 6ch, FlexRay: 1 unit Details of part number suffix <table><tr><td></td><td colspan="2">Dual clock system</td></tr><tr><td></td><td>xWC</td><td>xJC</td></tr><tr><td>CSV initial value</td><td>ON</td><td>OFF</td></tr></table> <table><tr><td></td><td colspan="2">Single clock system</td></tr><tr><td></td><td>xSC</td><td>xHC</td></tr><tr><td>CSV initial value</td><td>ON</td><td>OFF</td></tr></table>		Dual clock system			xWC	xJC	CSV initial value	ON	OFF		Single clock system			xSC	xHC	CSV initial value	ON	OFF	On-chip Debug
						Dual clock system																																									
						xWC	xJC																																								
	CSV initial value					ON	OFF																																								
						Single clock system																																									
						xSC	xHC																																								
	CSV initial value					ON	OFF																																								
	MB91F523B					448K+64K											Multi Function Serial x 9ch (LIN/UART/SIO/I2C Selectable)																														
	MB91F524B					576K+64K	72K																																								
	MB91F525B					832K+64K	104K																																								
	MB91F526B					1088K+64K	136K																																								
	MB91F522D					320K+64K	56K																																								
	MB91F523D	448K+64K																																													
	MB91F524D	576K+64K	72K																																												
	MB91F525D	832K+64K	104K																																												
	MB91F526D	1088K+64K	136K																																												
	MB91F522F	320K+64K	56K																																												
	MB91F523F	448K+64K																																													
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	MB91F522J	320K+64K	56K																																												
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	MB91F525J	832K+64K	104K																																												
	MB91F526J	1088K+64K	136K																																												
	MB91F522K	320K+64K	56K	Main Flash +Work Flash	-	16	✓	-	16(1) 32(1)	8bit x 2	16bit x 6 32bit x 6	16bit x 3 32bit x 3	16bit x 4 32bit x 6	Reload Timer x 8ch + PPG Timer x 44ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	2	-	Multi Function Serial x 12ch (LIN/UART/SIO/I2C Selectable)			6	-	-	-	✓																							
	MB91F523K	448K+64K																																													
	MB91F524K	576K+64K	72K																																												
	MB91F525K	832K+64K	104K																																												
	MB91F526K	1088K+64K	136K																																												
	MB91F527R	1600K+64K	192+16K																																												
	MB91F528R	2112K+64K	320K;16K																																												
	MB91F522L	320K+64K																																													
	MB91F523L	448K+64K	56K																																												
	MB91F524L	576K+64K	72K																																												
	MB91F525L	832K+64K	104K																																												
	MB91F526L	1088K+64K	136K																																												
	MB91F527U	1600K+64K	192+16K																																												
MB91F528U	2112K+64K	320K;16K																																													
MB91F527M	1600K+64K	192+16K																																													
MB91F528M	2112K+64K	320K;16K	24	177	32(1) 32(1)	16bit x 6 32bit x 8	16bit x 3 32bit x 8	16bit x 4 32bit x 8	Reload Timer x 8ch + PPG Timer x 64ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)			6	-	-	-	-																												
MB91F527Y	1600K+64K	192+16K																																													
MB91F528Y	2112K+64K	320K;16K	219																																												
MB91550	MB91F552	80	LQFP-64	4.5 to 5.5	-	Main Flash +Work Flash	192K+64K	24K	-	8	4	-	30	-	8(1) 4ch S/H(1)	-	-	1	1	Reload Timer x5ch + PWM Timer x6ch(2chx3 pairs) + PWC Timer x2ch + Base Timer x4ch (Reload/PPG/PWM/PWC Selectable)	-	-	Multi Function Serialx3ch (UART/SIO/LIN Selectable)		-	1	-	-	-	-	Comparator: 3ch, Slope Compensation: 1ch	On-Chip Debug															

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* In development; **Planning

FR Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch(unt)]	12bit AD Converter [ch(unt)]	DA Converter [bit x ch]	Timer								Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]				
CAN/AUTOMOTIVE																																		
MB91590	MB91F591B	80	LQFP-208	3.0 to 3.6 4.5 to 5.5 (2 power supplies)	Main Flash +Work Flash	Dedicated for GDC External Memory	576K +64K	48K	-	16	16	32(1)	-	-	4	2	6	Reload Timer x 4ch + PPG Timer x 24ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	-	Multi Function Serial x 2ch (LIN/UART/ SIO/I2C Selectable)	6	3	-	-	-	-	CAN: 32/64Mseg-buffer, LIN, FPU, MPU, Sound generator, SMC x 6ch, From among the RAM, 8KB can be used as BackUpRAM, Built-in 2D GDC	On-chip Debug						
	MB91F591BS																																	
	MB91F591BH																																	
	MB91F591BHS																																	
	MB91F592B																																	
	MB91F592BS																																	
	MB91F592BH																																	
	MB91F592BHS																																	
	MB91F594B	128	BGA-320				1600K +64K	264K							2112K +64K	264K	4	8	12	Reload Timer x 8ch + PPG Timer x 24ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	3	Multi Function Serial x 6ch (LIN/UART SIO/I2C Selectable. However, I2C only supports ch0/ ch1)												
	MB91F594BS																																	
	MB91F594BH																																	
	MB91F594BHS																																	
	MB91F59AC																																	
	MB91F59ACS																																	
	MB91F59ACH																																	
	MB91F59ACHS																																	
MB91F59BC																																		
MB91F59BCS																																		
MB91F59BCH																																		
MB91F59BCHS																																		

F²MC-16FX – 16bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch[unit]]	12bit AD Converter [ch[unit]]	DA Converter [bit x ch]	Timer								Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device			
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [ch]	
AUTOMOTIVE																																					
MB96310	MB96F313AS	56	LQFP-48	3.0 to 5.5	FLASH	96K	8K	-	4	11	-	36	12(1)	-	-	2	4	4 +3 (Dedicated for LIN)	4 +1 (Dedicated for PPG)	-	-	14	-	-	-	-	-	-	3	-	-	-	-	-	LVD, built-in CR Option without CAN	MB96V300C	
	✓																													34							1
	-																													36							-
	✓																													34							-
	MB96F313AW					✓																								36							-
	MB96F313RS					✓																								34							-
	MB96F313RW					✓																								36							-
	MB96F315AS					✓																								34							-
MB96320	MB96F326AS	56	LQFP-80	3.0 to 5.5	FLASH	288K	12K	-	4	15	✓	66	18(1)	-	-	6	4	12	4 +1 (Dedicated for PPG)	-	-	20	-	-	1	-	-	4	-	-	-	-	-	LVD, built-in CR Option without CAN	MB96V300C		
	✓																												64							-	
	MB96F326AW																												✓							66	2
	MB96F326RS																												✓							64	-
	MB96F326RW																												✓							64	-
MB96330	MB96F336US	48	LQFP-144	3.0 to 5.5	FLASH	288K	24K	-	10	16	✓	124	36(1)	-	-	12	4	10	4 +1 (Dedicated for PPG)	-	-	20	-	-	2	-	-	8	1	1ch (USB-Host/ USB-Function Selectable)	-	-	LVD, built-in CR	MB96V300C			
	✓																												122	-							
	MB96F338RS					✓	124					-																									
	MB96F338RW					✓	122					-																									
	MB96F338US					✓	120					-																									
	MB96F338UW					✓	118					-																									

F²MC-16FX – 16bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device	
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN UART/SIO [ch]	CAN [ch]	USB-Host [ch]					USB-Function [ch]
AUTOMOTIVE																																				
MB96610	MB96F612A	32	LQFP-48	2.7 to 5.5	✓	Dual Op. Flash	32.5K +32K	4K	-	2	11	-	37 (Single clock) 35 (Dual clock)	16(1)	-	-	5	4	4 +3 (Dedicated for LIN)	2 +1 (Dedicated for PPG)	-	-	8bit x 16 16bit x 8	-	QPRC x 2	-	-	-	3	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F612R						64.5K +32K																							-						
	MB96F613A						128.5K +32K																							-						
	MB96F615A						32.5K +32K																							-						
	MB96F615R						64.5K +32K																							-						
MB96620	MB96F622A	32	LQFP-64	2.7 to 5.5	✓	Dual Op. Flash	32.5K +32K	4K	-	2	13	-	52 (Single clock) 50 (Dual clock)	21(1)	-	-	6	4	6 +2 (Dedicated for LIN)	2 +1 (Dedicated for PPG)	-	-	8bit x 16 16bit x 8	-	QPRC x 2	1	-	-	3	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F622R						64.5K +32K																							-						
	MB96F623A						128.5K +32K																							-						
	MB96F623R						32.5K +32K																							-						
	MB96F625A						64.5K +32K																							-						
MB96630	MB96F633A	32	LQFP-80	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	10K	-	4	15	-	64 (Single clock) 66 (Dual clock)	21(1)	-	-	7	3	6 +1 (Dedicated for LIN)	3	-	-	8bit x 20 16bit x 15	-	QPRC x 2	2	-	-	5	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F633R						128.5K +32K																							-						
	MB96F635A						256.5K +32K																							-						
	MB96F635R						384.5K +32K																							-						
	MB96F636R						64.5K +32K																							-						
MB96640	MB96F643A	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	10K	-	4	16	-	81 (Single clock) 79 (Dual clock)	24(1)	-	-	7	3	6 +1 (Dedicated for LIN)	5	-	-	8bit x 24 16bit x 16	-	QPRC x 2	2	-	-	6	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F643R						128.5K +32K																							-						
	MB96F645A						256.5K +32K																							-						
	MB96F645R						384.5K +32K																							-						
	MB96F646R						64.5K +32K																							-						
MB96650	MB96F653A	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	10K	-	4	16	-	101 (Single clock) 99 (Dual clock)	29(1)	-	-	7	3	6 +1 (Dedicated for LIN)	5	-	-	8bit x 32 16bit x 16	-	QPRC x 2	2	-	-	6	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F653R						128.5K +32K																							-						
	MB96F655A						256.5K +32K																							-						
	MB96F655R						384.5K +32K																							-						
	MB96F656R						64.5K +32K																							-						
MB96670	MB96F673A	32	LQFP-64	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	4K	-	2	7	-	50 (Single clock) 48 (Dual clock)	12(1)	-	-	-	2	4	3	-	-	8bit x 8 16bit x 4	-	-	1	-	-	2	-	-	-	24 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
	MB96F673R						128.5K +32K																							-						
	MB96F675A						64.5K +32K																							-						
	MB96F675R						64.5K +32K																							-						
MB96680	MB96F683A	32	LQFP-80	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	4K	-	2	7	-	65 (Single clock) 63 (Dual clock)	14(1)	-	-	-	2	4	3	-	-	8bit x 8 16bit x 4	-	-	1	-	-	2	-	-	-	32 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
	MB96F683R						128.5K +32K																							-						
	MB96F685A						64.5K +32K																							-						
	MB96F685R						64.5K +32K																							-						
MB96690	MB96F693A	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	8K	-	4	16	-	79 (Single clock) 77 (Dual clock)	27(1)	-	-	4	2	6	5	-	-	8bit x 14 16bit x 10	-	-	1	-	-	5	-	-	-	36 x 4	-	SMC x 4ch Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F693R						128.5K +32K																							-						
	MB96F695A						256.5K +32K																							-						
	MB96F695R						256.5K +32K																							-						
MB966A0	MB96F6A5A	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	128.5K +32K	8K	-	4	16	-	97 (Single clock) 95 (Dual clock)	32(1)	-	-	4	2	8	5	-	-	8bit x 24 16bit x 12	-	-	1	-	-	5	-	-	-	44 x 4	-	SMC x 5ch Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6A5R						256.5K +32K																							-						
	MB96F6A6R						256.5K +32K																							-						
MB966B0	MB96F6B5A	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	128.5K +32K	8K	-	4	16	-	79 (Single clock) 77 (Dual clock)	27(1)	-	-	4	2	6	5	-	-	8bit x 16 16bit x 12	-	QPRC x 2	1	-	-	5	-	-	-	36 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6B5R						256.5K +32K																							-						
	MB96F6B6R						256.5K +32K																							-						
MB966C0	MB96F6C5A	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	128.5K +32K	8K	-	4	16	-	99 (Single clock) 97 (Dual clock)	32(1)	-	-	4	2	8	5	-	-	8bit x 24 16bit x 12	-	QPRC x 2	1	-	-	5	-	-	-	44 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6C6R						256.5K +32K																							-						