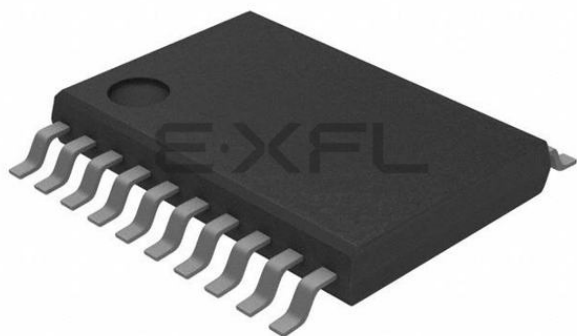




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What is "[Embedded - Microcontrollers](#)"?

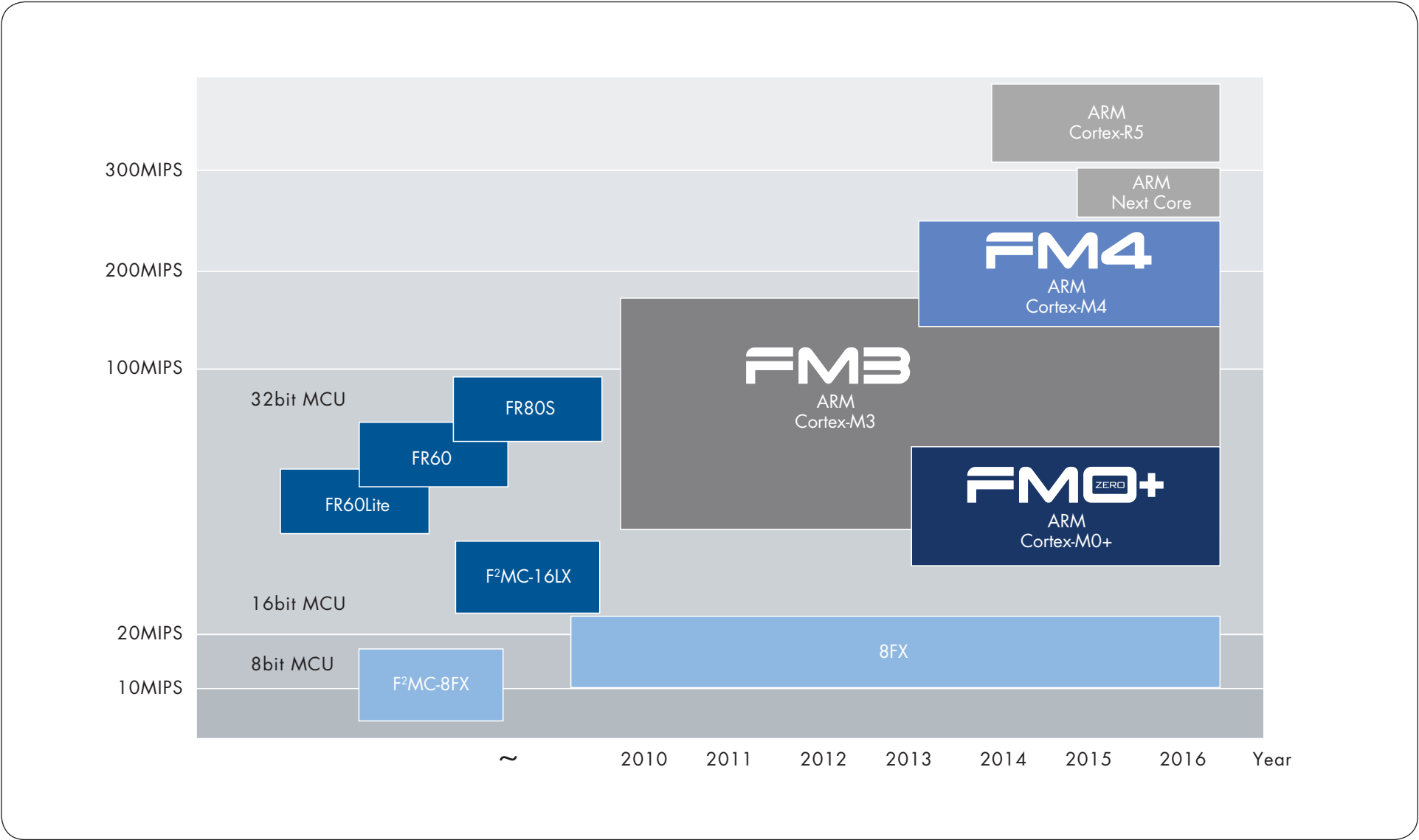
"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" 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	LINbus, UART/USART
Peripherals	LVD, POR, PWM, WDT
Number of I/O	17
Program Memory Size	8KB (8K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	240 x 8
Voltage - Supply (Vcc/Vdd)	2.4V ~ 5.5V
Data Converters	A/D 6x8/10b
Oscillator Type	External
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	20-TSSOP (0.173", 4.40mm Width)
Supplier Device Package	20-TSSOP
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/mb95f562kpft-g-snk1ere2

Consumer and Industrial MCU Core Roadmap



Consumer and Industrial MCU Family



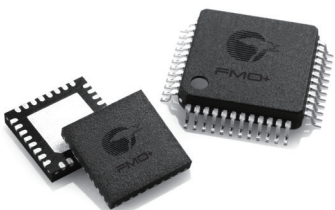
FM4 FAMILY

Cypress ARM® Cortex®-M4F microcontroller family is a high range line providing maximum CPU frequency of 200MHz, a high speed flash memory with DSP and FPU hardware instructions. Customers can select the best fitting device from a range of products, coming in packages from 48 pin to 216 pin and flash memory densities between 256KB and 2MB. The wide operation supply voltage range up to 5.5V which improves the signal to noise ratio, results in a robust design and is unique among Cortex-M4F microcontroller families. The MCUs are designed for applications that require advanced, high-speed computing performance such as general-purpose inverters, servomotors, PLCs and other industrial equipment, as well as inverter-based home appliances such as washing machines and air conditioners.



FM3 FAMILY

Cypress ARM Cortex-M3 microcontroller family is a scalable platform for many industrial applications. Customers can select the best fitting device from a range of products, coming in packages from 32 pin to 176 pin and flash memory densities between 32KB and 1MB. With a maximum CPU frequency of 144MHz and high speed flash memory, FM3 supports the fastest ARM Cortex-M3 devices on the market. The wide operation supply voltage range up to 5.5V, which improves the signal to noise ratio, results in a robust design and is quite unique among Cortex-M3 microcontroller families. The FM3 MCU family is split into four groups: high performance, basic, low power and ultra low leakage groups. The main differences between the groups are CPU operation frequency and supply voltage. All products are based on the same architecture (software compatible), use the same peripherals and are pin compatible in most cases. The ultra low leakage line products are based on an optimized low leakage process technology. Development tools and evaluation boards are offered from different vendors and Cypress.



FM0+ FAMILY

The Cypress FM0+ family, which is based on the ARM Cortex-M0+ core, is designed for low power and cost-sensitive applications such as white goods, sensors, meters, HMI systems, power tools and Internet of Things (IoT) battery powered or energy harvesting wearable devices. These microcontrollers can be easily embedded into systems adopting 8-, 16- or 32-bit MCUs, accelerating product development and reducing development costs. The FM0+ family includes two groups for ultra-low-power and cost-effective applications. The devices in the ultra-low-power group have an operating voltage range of 1.65V to 3.6V, and a maximum CPU clock frequency of 40MHz, a RUN mode current of 70 μ A/MHz, an RTC mode current of 0.7 μ A and wake-up time of approximately 40 μ s.

8FX FAMILY

Cypress 8FX MCU family is a high-performance 8-bit microcontroller utilizing a different embedded flash memory size. This series uses the F2MC-8FX CISC CPU, which offers industry leading class performance of an 8-bit microcontroller unit enabling more instructions to be executed per cycle. On top of delivering industry class performance MCUs, the 8FX family also delivers low power efficient MCU products for the customer's usage. This series also features a variety of on-chip timers, A/D converters, analog and digital peripheral and communication interfaces such as LIN-UART (Local Interconnect Network Universal Asynchronous Receiver-Transmitter), CAN (controller area network) and I2C (Inter-Integrated Circuit) interface for various application usages. For easy development, the 8FX family also employs a 1-line on-chip debug that uses only one pin on the microcontroller, thereby minimizing the number of pins used for debugging in product development. Cypress also provides easy to use and cost competitive development starter kits and development environments for this MCU series.

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]	1bit AD Converter [bit(unif)]	12bit AD Converter [bit(unif)]	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]						
S6E2HG	S6E2HG6E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K + 32K	64K	-	8	16	✓	63	16 (3)	24 (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)	24 (3)																											
	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)	24 (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)	24 (3)																											
	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)	24 (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)	24 (3)																											
	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)	24 (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)	24 (3)																											
	S6E2H14F0A		LQFP-100																																							
S6E2H14G0A	LQFP-120 BGA-121																																									
S6E2GM w/security	S6E2GM8HHA	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	32 (3)	-	Multi-Function Timer x2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 6ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	-	Multi Function Serial x 10ch (UART/CSIO/I2C/LIN Selectable)	1	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, Tiny I2S, Smart Card I/F, ETH, SDC, Chipher	On-Chip Debug (SWJ-DP/ ETM)															
	S6E2GM8JHA		LQFP-176																																							
	S6E2GM6HHA		LQFP-144				512K	128K					121															24 (3)	-													
	S6E2GM6JHA		LQFP-176																																							
S6E2GM	S6E2GM8H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	32 (3)	-	Multi-Function Timer x2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 6ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	-	Multi Function Serial x 10ch (UART/CSIO/I2C/LIN Selectable)	1	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, Tiny I2S, Smart Card I/F, ETH, SDC	On-Chip Debug (SWJ-DP/ ETM)															
	S6E2GM8J0A		LQFP-176																																							
	S6E2GM6H0A		LQFP-144				512K	128K					121															24 (3)	-													
	S6E2GM6J0A		LQFP-176																																							
S6E2GK w/security	S6E2GK8HHA	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	32 (3)	-	Multi-Function Timer x2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 6ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	-	Multi Function Serial x 10ch (UART/CSIO/I2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, Tiny I2S, Smart Card I/F, ETH, SDC, Chipher	On-Chip Debug (SWJ-DP/ ETM)															
	S6E2GK8JHA		LQFP-176																																							
	S6E2GK6HHA		LQFP-144				512K	128K					121															24 (3)	-													
	S6E2GK6JHA		LQFP-176																																							
S6E2GK	S6E2GK8H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	32 (3)	-	Multi-Function Timer x2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 6ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	-	Multi Function Serial x 10ch (UART/CSIO/I2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, Tiny I2S, Smart Card I/F, ETH, SDC	On-Chip Debug (SWJ-DP/ ETM)															
	S6E2GK8J0A		LQFP-176																																							
	S6E2GK6H0A		LQFP-144				512K	128K					121															24 (3)	-													
	S6E2GK6J0A		LQFP-176																																							

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			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]		
S6E2C4	S6E2C4AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	120	24 (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)	-	-	✓	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)						
	LQFP-176 BGA-192																															
	LQFP-216																															
	LQFP-144																															
	S6E2C4A9J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																			
	LQFP-216																															
	LQFP-144																															
	LQFP-176 BGA-192																															
S6E2C48H0A	LQFP-144	LQFP-176 BGA-192																														
S6E2C48J0A	LQFP-216	LQFP-176 BGA-192																														
S6E2C3	S6E2C3AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	120	24 (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)	-	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)						
	LQFP-176 BGA-192																															
	LQFP-216																															
	LQFP-144																															
	S6E2C39J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																			
	LQFP-216																															
	LQFP-144																															
	LQFP-176 BGA-192																															
S6E2C38H0A	LQFP-144	LQFP-176 BGA-192																														
S6E2C38J0A	LQFP-216	LQFP-176 BGA-192																														
S6E2C2 w/ Security	S6E2C2AHHA	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	120	24 (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)	-	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)						
	LQFP-176 BGA-192																															
	LQFP-216																															
	LQFP-144																															
	S6E2C29JHA		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																			
	LQFP-216																															
	LQFP-144																															
	LQFP-176 BGA-192																															
S6E2C28HHA	LQFP-144	LQFP-176 BGA-192																														
S6E2C28JHA	LQFP-216	LQFP-176 BGA-192																														
S6E2C2	S6E2C2AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	120	24 (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)	-	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)						
	LQFP-176 BGA-192																															
	LQFP-216																															
	LQFP-144																															
	S6E2C29J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																			
	LQFP-216																															
	LQFP-144																															
	LQFP-176 BGA-192																															
S6E2C28H0A	LQFP-144	LQFP-176 BGA-192																														
S6E2C28J0A	LQFP-216	LQFP-176 BGA-192																														
S6E2C1	S6E2C1AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	120	24 (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)	-	-	-	✓	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)						
	LQFP-176 BGA-192																															
	LQFP-216																															
	LQFP-144																															
	S6E2C19J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																			
	LQFP-216																															
	LQFP-144																															
	LQFP-176 BGA-192																															
S6E2C18H0A	LQFP-144	LQFP-176 BGA-192																														
S6E2C18J0A	LQFP-216	LQFP-176 BGA-192																														
S6E2C18L0A	LQFP-216	LQFP-176 BGA-192																														

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				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]		
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)					-	24(3)	16(3)														24(3)	-	80	100	63	16(3)	24(3)
	MB9BF167N		LQFP-100 QFP-100 BGA-112																																
	MB9BF167R		LQFP-120 BGA-144																																
	MB9BF168M		LQFP-80																																
	MB9BF168N		LQFP-100 QFP-100 BGA-112																																
	MB9BF168R		LQFP-120 BGA-144																																
MB9B560L	MB9BF564K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	15	33	8(2)	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/I ² C/LIN Selectable)	1	1ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)								
	MB9BF564L		LQFP-64 QFN-64																									16	48	15(2)					
	MB9BF565K		LQFP-48 QFN-48				384K +32K	48K					15	33	8(2)																				
	MB9BF565L		LQFP-64 QFN-64																									16	48	15(2)					
	MB9BF566K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	-	-	15	33	8(2)	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/I ² C/LIN Selectable)	1	1ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)								
			MB9BF566L																									LQFP-64 QFN-64	16	48	15(2)				

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]																			
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)																	
	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																																																		
	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																																																		
	MB9BF464L		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)																																												
	MB9BF465K		LQFP-48 QFN-48				384K +32K	48K							-	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)						
	MB9BF465L		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)																														
MB9BF466K	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)																																																	
MB9BF466L	LQFP-64 QFN-64	512K +32K	64K	-	8	-	-	-	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 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)																				
Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																																																			
Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																																																			

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]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
MB9B160L	MB9BF164K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	-	-	12 x 2	12	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	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 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	MB9BF164L		LQFP-64 QFN-64																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	MB9BF165K		LQFP-48 QFN-48				384K +32K	48K																								-	8	-	-	-	-	12 x 2	12	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	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 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	MB9BF165L		LQFP-64 QFN-64																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	MB9BF166K		LQFP-48 QFN-48																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	MB9BF166L		LQFP-64 QFN-64				512K +32K	64K																																															-	8	-	-	-	-	12 x 2	12	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	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 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	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/SIO [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]					USB-Function [ch]	
HIGH-PERFORMANCE GROUP																																					
MB9B500B	MB9BF504NB	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	256K	32K	-	8	16	✓	-	16(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)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	2	1ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)											
	MB9BF504RB		LQFP-120				384K	48K																													
	MB9BF505NB		LQFP-100 BGA-112				384K	48K																													
	MB9BF505RB		LQFP-120				384K	48K																													
	MB9BF506NB		LQFP-100 BGA-112				512K	64K																													
	MB9BF506RB		LQFP-120				512K	64K																													
MB9B400A	MB9BF404NA	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	256K	32K	-	8	16	✓	-	16(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)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	2	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)										
	MB9BF404RA		LQFP-120				384K	48K																													
	MB9BF405NA		LQFP-100 BGA-112				384K	48K																													
	MB9BF405RA		LQFP-120				384K	48K																													
	MB9BF406NA		LQFP-100 BGA-112				512K	64K																													
	MB9BF406RA		LQFP-120				512K	64K																													
MB9B300B	MB9BF304NB	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	256K	32K	-	8	16	✓	-	16(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)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)											
	MB9BF304RB		LQFP-120				384K	48K																													
	MB9BF305NB		LQFP-100 BGA-112				384K	48K																													
	MB9BF305RB		LQFP-120				384K	48K																													
	MB9BF306NB		LQFP-100 BGA-112				512K	64K																													
	MB9BF306RB		LQFP-120				512K	64K																													
MB9B100A	MB9BF102NA	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	128K	16K	-	8	16	✓	-	16(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)	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/ETM)										
	MB9BF102RA		LQFP-120				256K	32K																													
	MB9BF104NA		LQFP-100 BGA-112				384K	48K																													
	MB9BF104RA		LQFP-120				384K	48K																													
	MB9BF105NA		LQFP-100 BGA-112				512K	64K																													
	MB9BF105RA		LQFP-120				512K	64K																													
	MB9BF106NA		LQFP-100 BGA-112				512K	64K																													
	MB9BF106RA		LQFP-120				512K	64K																													
BASIC GROUP																																					
MB9B520M	MB9BF521K	72	LQFP-48 QFN-48	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	64K +32K	16K	-	8	-	-	-	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)	QPRC x 1	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)	1	1ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer, Unique ID, Real Time Clock	On-chip Debug (SWJ-DP)											
	MB9BF521L		LQFP-64 QFN-64																								19	50	23(2)								
	MB9BF521M		LQFP-80 BGA-96																								23	65	26(2)								
	MB9BF522K		LQFP-48 QFN-48				14	35																			14(2)										
	MB9BF522L		LQFP-64 QFN-64				19	50																			23(2)										
	MB9BF522M		LQFP-80 BGA-96				23	65																			26(2)										
	MB9BF524K		LQFP-48 QFN-48				14	35																			14(2)										
	MB9BF524L		LQFP-64 QFN-64				19	50																			23(2)										
	MB9BF524M		LQFP-80 BGA-96				23	65																			26(2)										
BASIC GROUP																																					

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)		14(2)		23(2)					65	26(2)	QPRC x 2	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)											
	MB9BF322M		LQFP-80 BGA-96				23	65			26(2)												Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)											
	MB9BF324K		LQFP-48 QFN-48				14	35			14(2)												Multi Function Serial x 8ch (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)																							
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)		14(2)		23(2)					65	26(2)	QPRC x 2	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)											
	MB9BF122M		LQFP-80 BGA-96				23	65			26(2)												Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)											
	MB9BF124K		LQFP-48 QFN-48				14	35			14(2)												Multi Function Serial x 8ch (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)																							
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/ 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, 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)	1	QPRC x 1 QPRC x 2 QPRC x 1 QPRC x 2	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	122																										
	MB9BF529S*		LQFP-144				154																											
	MB9BF529T*		LQFP-176 BGA-192				154																											
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)	1	QPRC x 1 QPRC x 2 QPRC x 1 QPRC x 2	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	122																										
	MB9BF429S*		LQFP-144				154																											
	MB9BF429T*		LQFP-176 BGA-192				154																											

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				1.5M +64K	192K																											
	MB9BF329T*		LQFP-176 BGA-192				1.5M +64K	192K																											
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				1.5M +64K	192K																											
	MB9BF129T*		LQFP-176 BGA-192				1.5M +64K	192K																											
MB9A420L	MB9AF421K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	FLASH	64K	4K	-	-	14	-	36	-	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	-	36	-	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)		On-chip Debug (SWJ-DP/ETM)																															
	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)											On-chip Debug (SWJ-DP)																				
	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)											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)										
	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)		On-chip Debug (SWJ-DP)																																	
	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)		On-chip Debug (SWJ-DP/ETM)																															
	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)																					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)
	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)		On-chip Debug (SWJ-DP/ETM)																															
	MB9AF114NA		LQFP-100 QFP-100 BGA-112								16	83	16(3)				On-chip Debug (SWJ-DP)																															
	MB9AF115MA		LQFP-80				11				66	12(3)	On-chip Debug (SWJ-DP)																																			
	MB9AF115NA		LQFP-100 QFP-100 BGA-112**				16				✓	83	16(3)				On-chip Debug (SWJ-DP/ETM)																															
	MB9AF116MA		LQFP-80				11				66	12(3)	On-chip Debug (SWJ-DP)																																			
	MB9AF116NA		LQFP-100 QFP-100 BGA-112**				16				83	16(3)	On-chip Debug (SWJ-DP/ETM)																																			
MB9A310K	MB9AF311K	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)	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Time Clock	On-chip Debug (SWJ-DP)																					
	MB9AF312K		128K +32K				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)		On-chip Debug (SWJ-DP)																															
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 [bit]	Ext. Interrupt [bit]	External Bus	Maximum I/O port [bit]	10bit AD Converter [bit(unit)]	12bit AD Converter [bit(unit)]	DA Converter [bit x bit]	Timer								Serial				Communication			Note	Evaluation Device		
																	Output Compare [bit]	Free-Run Timer [bit]	Input Capture [bit]	Reload Timer [bit]	PWM Timer [bit]	PWC Timer [bit]	PPG Timer [bit]	Up/Down Counter [bit]	Other timers [bit]	I ² C [bit]	UART/ISI [bit]	SIO [bit]	LIN/UART/SIO [bit]	CAN [bit]	USB-Host [bit]			USB-Function [bit]	LCD Controller (seg x com)
LOW-POWER GROUP																																			
MB9A150R	MB9AF154MA	40	LQFP-80 BGA-96	1.65 to 3.6	✓	Dual Op. Flash (Main area + Work area)	256K +32K	32K	-	8	23	✓	66	-	17(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)	QPRC x 2	1	Base Timer x 15ch (Reload/PPG/PWM/ PWC Selectable)				-	-	-	-	✓	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP)						
	24		83								24(2)		Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)						Multi Function Serial x 10ch (UART/CSIO/I2C Selectable)										On-chip Debug (SWJ-DP/ETM)						
	103		Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)								Multi Function Serial x 16ch (UART/CSIO/I2C Selectable)								On-chip Debug (SWJ-DP)																
	MB9AF154NA		LQFP-100 BGA-112				384K +32K	48K			-	8	23						66	17(2)	Base Timer x 15ch (Reload/PPG/PWM/ PWC Selectable)								Multi Function Serial x 10ch (UART/CSIO/I2C Selectable)				On-chip Debug (SWJ-DP)		
	MB9AF155MA		LQFP-80 BGA-96										24						83	24(2)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)								Multi Function Serial x 14ch (UART/CSIO/I2C Selectable)				On-chip Debug (SWJ-DP/ETM)		
	MB9AF155NA		LQFP-100 BGA-112										103						Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)										Multi Function Serial x 16ch (UART/CSIO/I2C Selectable)				On-chip Debug (SWJ-DP/ETM)		
	MB9AF155RA		LQFP-120				512K +32K	64K					23						66	17(2)	Base Timer x 15ch (Reload/PPG/PWM/ PWC Selectable)								Multi Function Serial x 10ch (UART/CSIO/I2C Selectable)				On-chip Debug (SWJ-DP)		
	MB9AF156MA		LQFP-80 BGA-96										24						83	24(2)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)								Multi Function Serial x 14ch (UART/CSIO/I2C Selectable)				On-chip Debug (SWJ-DP/ETM)		
	MB9AF156NA		LQFP-100 BGA-112										103						Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)										Multi Function Serial x 16ch (UART/CSIO/I2C Selectable)				On-chip Debug (SWJ-DP/ETM)		
MB9AF156RA	LQFP-120																																		
MB9AB40NA	MB9AFB41LB	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/I2C 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)						
	MB9AFB41MB		LQFP-80 BGA-96										11	66	17(2)						Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								20 x 8	33 x 8					
	MB9AFB41NB		LQFP-100 QFP-100 BGA-112								16	✓	83	24(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)						40 x 8														
	MB9AFB42LB		LQFP-64 QFN-64				8				-	51	12(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)							20 x 8	33 x 8	40 x 8												
	MB9AFB42MB		LQFP-80 BGA-96				11				66	17(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								33 x 8														
	MB9AFB42NB		LQFP-100 QFP-100 BGA-112				16				✓	83	24(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)							40 x 8														
	MB9AFB44LB		LQFP-64 QFN-64				8				-	51	12(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)							20 x 8	33 x 8	40 x 8												
	MB9AFB44MB		LQFP-80 BGA-96				11				66	17(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								33 x 8														
	MB9AFB44NB		LQFP-100 QFP-100 BGA-112				16				✓	83	24(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)							40 x 8														
MB9AA40NA	MB9AFA41LB	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/I2C Selectable)				-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP)								
	MB9AFA41MB		LQFP-80 BGA-96								11	66	17(2)						Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								20 x 8	33 x 8							
	MB9AFA41NB		LQFP-100 QFP-100 BGA-112								16	✓	83						24(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)							40 x 8								
	MB9AFA42LB		LQFP-64 QFN-64				8				-	51	12(2)						Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								20 x 8	33 x 8	40 x 8						
	MB9AFA42MB		LQFP-80 BGA-96				11				66	17(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)						33 x 8																
	MB9AFA42NB		LQFP-100 QFP-100 BGA-112				16				✓	83	24(2)						Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								40 x 8								
	MB9AFA44LB		LQFP-64 QFN-64				8				-	51	12(2)						Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								20 x 8	33 x 8	40 x 8						
	MB9AFA44MB		LQFP-80 BGA-96				11				66	17(2)	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)						33 x 8																
	MB9AFA44NB		LQFP-100 QFP-100 BGA-112				16				✓	83	24(2)						Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)								40 x 8								

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]	DMAAC [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/SSI [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)	-	-	-	-	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)																									
MB9AF141LB	LQFP-64 QFN-64	8	-	51	12(2)																																															
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	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)				
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	8	-	51	12(2)																																															
MB9AF144MB	LQFP-80 BGA-96	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)	-	-	-	-	-	-	-	-	-	-	-	-	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID																						On-chip Debug (SWJ-DP/ETM)				
MB9AF144NB	LQFP-100 QFP-100 BGA-112	16	✓	83	24(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(unif)]	12bit AD Converter [ch(unif)]	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]		
ULTRA LOW LEAK GROUP																															
MB9AAAQN	MB9AFAA1L	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	12K	-	-	-	-	52	-	9(1)	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)	-	-	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	-	-	24 x 4 or 20 x 8 37 x 4 or 33 x 8 44 x 4 or 40 x 8 24 x 4 or 20 x 8 37 x 4 or 33 x 8 44 x 4 or 40 x 8	✓	HDMI-CEC/Remote Control Reception x 2, Real Time Clock	On-chip Debug (SWJ-DP)			
	MB9AFAA1M		LQFP-80																												
	MB9AFAA1N		LQFP-100 QFP-100																												
	MB9AFAA2L		LQFP-64 QFN-64				128K	16K					11		67														84	9(1)	
	MB9AFAA2M		LQFP-80																												
	MB9AFAA2N		LQFP-100 QFP-100																												
MB9A1AQN	MB9AF1A1L	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	12K	-	-	-	-	52	-	9(1)	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)	-	-	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	-	-	-	✓	HDMI-CEC/Remote Control Reception x 2, Real Time Clock	On-chip Debug (SWJ-DP)			
	MB9AF1A1M		LQFP-80																												
	MB9AF1A1N		LQFP-100 QFP-100																												
	MB9AF1A2L		LQFP-64 QFN-64				128K	16K					11		67														84	9(1)	
	MB9AF1A2M		LQFP-80																												
	MB9AF1A2N		LQFP-100 QFP-100																												
MB9A130LA	MB9AF131LB	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	8K	-	-	-	-	52	-	8(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 8ch (Reload/PPG/PWM/ PWC Selectable)	-	-	Multi Function Serial x 8ch (UART/CSIO/I ² C Selectable)	-	-	-	-	✓	Real Time Clock	On-chip Debug (SWJ-DP)			
	MB9AF131KB		LQFP-48 QFN-48																												
	MB9AF132LB		LQFP-64 QFN-64				128K	6					37		52														8(1)		
	MB9AF132KB		LQFP-48 QFN-48																												

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/S ¹ [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 LQFP-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																											

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		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]	I2C [ch]	UART/S [ch]	SIO [ch]					LIN/UART/SIO [ch]
CAN/AUTOMOTIVE																																	
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			10bit x 2	32bitFree-Run Timer x 5ch	16bit Base Timer x 12ch (PWM/PPG/Reload/PWC Selectable)	32bitInput Capture x 3unit 6ch	16bitFree-Run Timer x 20ch	16bit Input Capture x 8unit 15ch	16bitOutput Compare x 12unit 24ch	Waveform Generator x 4unit 24ch	4	-		3	-	-	-	✓	ARM Cortex-R5 CAN: 64msb, RDC x 2unit, Motor vector accelaretor x 2unit Models with A suffix on part number have no built-in FlexRay. Models with G suffix on part number have built-in FlexRay. ARM Cortex-R5 Motor vector accelaretor x 2unit Models with L suffix on part number have no built-in FlexRay. Models with Q suffix on part number have built-in FlexRay. ARM Cortex-R5 RDC x 2unit Motor vector accelaretor x 2unit Models with A suffix on part number have no built-in FlexRay. Models with G suffix on part number have built-in FlexRay. ARM Cortex-R5 Motor vector accelaretor x 2unit Models with L suffix on part number have no built-in FlexRay. Models with Q suffix on part number have built-in FlexRay.	On-Chip Debug
	MB9DF564MG						(896K +64K) x2	96K x2																									
	MB9DF565MA						(1152K +64K) x2	128K x2																									
	MB9DF565MG						(640K + 64K) x 2	64K x 2																									
	MB9DF566MA		(896K + 64K) x 2				96K x 2																										
	MB9DF566MG		(1152K + 64K) x 2				128K x 2																										
	MB9DF564ML		(896K + 64K) x 2				96K x 2																										
	MB9DF564MQ		(1152K + 64K) x 2				128K x 2																										
	MB9DF565ML		(640K + 64K) x 2				64K x 2																										
	MB9DF565MQ		(896K + 64K) x 2				96K x 2																										
	MB9DF566ML		(1152K + 64K) x 2				128K x 2																										
	MB9DF566MQ		(640K + 64K) x 2				64K x 2																										
	MB9DF564LA		(896K + 64K) x 2				96K x 2																										
	MB9DF565LA		(1152K + 64K) x 2				128K x 2																										
	MB9DF566LA		(640K + 64K) x 2				64K x 2																										
	MB9DF566LG		(896K + 64K) x 2				96K x 2																										
MB9DF564LL	(1152K + 64K) x 2	128K x 2																															
MB9DF564LQ	(640K + 64K) x 2	64K x 2																															
MB9DF565LL	(896K + 64K) x 2	96K x 2																															
MB9DF565LQ	(1152K + 64K) x 2	128K x 2																															
MB9DF566LL	(640K + 64K) x 2	64K x 2																															
MB9DF566LQ	(896K + 64K) x 2	96K x 2																															

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			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/IS [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]		
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	56(2)	Instruction: 16 Data: 16	16	16	-	116	-	-	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	150																															

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/SI [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	On-chip Debug																																												
	448K+64K					72K	Reload Timer x 7ch + PPG Timer x 27ch + Base Timer x 1ch (Reload/PPG/PWM/PWC Selectable)								Multi Function Serial x 9ch (LIN/UART/SIO/I2C Selectable)																																																										
	576K+64K					104K									Reload Timer x 8ch + PPG Timer x 34ch + Base Timer x 1ch (Reload/PPG/PWM/PWC Selectable)	Multi Function Serial x 12ch (LIN/UART/SIO/I2C Selectable)																																																									
	1088K+64K					136K										Reload Timer x 8ch + PPG Timer x 38ch + Base Timer x 2ch (Reloa d/PPG/PWM/ PWC Selectable)	Details of part number suffix																																																								
	320K+64K					56K											16(1) 21(1)			8bit x 2	16bit x 6 32bit x 6	16bit x 3 32bit x 3								16bit x 4 32bit x 6	16(1) 26(1)	16(1) 32(1)	8bit x 2	16(1) 32(1)	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)	3	-	-	-	✓	<table border="1"><tr><td rowspan="2">CSV initial value</td><td colspan="2">Dual clock system</td></tr><tr><td>xWC</td><td>xJC</td></tr><tr><td colspan="2"></td><td>ON</td><td>OFF</td></tr><tr><td rowspan="2"></td><td colspan="2">Single clock system</td></tr><tr><td>xSC</td><td>xHC</td></tr><tr><td>CSV initial value</td><td>ON</td><td>OFF</td></tr></table>	CSV initial value	Dual clock system		xWC	xJC			ON	OFF		Single clock system		xSC	xHC	CSV initial value	ON	OFF									
	CSV initial value					Dual clock system																																																																			
		xWC				xJC																																																																			
						ON	OFF																																																																		
		Single clock system																																																																							
		xSC				xHC																																																																			
	CSV initial value	ON				OFF																																																																			
	448K+64K	72K				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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-								Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6	-	-	-	✓																																						
	576K+64K	104K	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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6				-	-				-	✓																																																	
	1088K+64K	136K																							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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6	-	-	-	✓																												
	1600K+64K	192+16K																																												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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6	-	-	-	✓														
	2112K+64K	320K;16K																																																										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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6	-	-	-	✓
	320K+64K	56K																																																																							
	448K+64K	72K				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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-								Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6	-	-	-	✓																																						
	576K+64K	104K	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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6				-	-				-	✓																																																	
	1088K+64K	136K																							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 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4	-	Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)	6	-	-	-	✓																												
	1600K+64																																																																								

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* In development; **Planning

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																							1						
	MB96F613A						128.5K +32K																							1						
	MB96F615A																													1						
	MB96F615R																													1						
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	1	-	-	-	-	Option without CAN	On-chip Debug
	MB96F622R						64.5K +32K																							1						
	MB96F623A						128.5K +32K																							1						
	MB96F623R																													1						
	MB96F625A																													1						
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	1	-	-	-	-	Option without CAN	On-chip Debug
	MB96F633R						128.5K +32K																							1						
	MB96F635A						256.5K +32K																							1						
	MB96F635R						384.5K +32K																							1						
	MB96F636R																													1						
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	1	-	-	-	-	Option without CAN	On-chip Debug
	MB96F643R						128.5K +32K																							1						
	MB96F645A						256.5K +32K																							1						
	MB96F645R						384.5K +32K																							1						
	MB96F646R																													1						
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	1	-	-	-	-	Option without CAN	On-chip Debug
	MB96F653R						128.5K +32K																							1						
	MB96F655A						256.5K +32K																							1						
	MB96F655R						384.5K +32K																							1						
	MB96F656R																													1						
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	1	-	-	24 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
	MB96F673R						128.5K +32K																							1						
	MB96F675A																													1						
	MB96F675R																													1						
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	1	-	-	32 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
	MB96F683R						128.5K +32K																							1						
	MB96F685A																													1						
	MB96F685R																													1						
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	1	-	-	36 x 4	-	SMC x 4ch Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F693R						128.5K +32K																							1						
	MB96F695A						256.5K +32K																							1						
	MB96F695R																													1						
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	1	-	-	44 x 4	-	SMC x 5ch Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6A5R						256.5K +32K																							1						
	MB96F6A6R																													1						
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	1	-	-	36 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6B5R						256.5K +32K																							1						
	MB96F6B6R																													1						
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	1	-	-	44 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6C5R						256.5K +32K																							1						
	MB96F6C6R																																			