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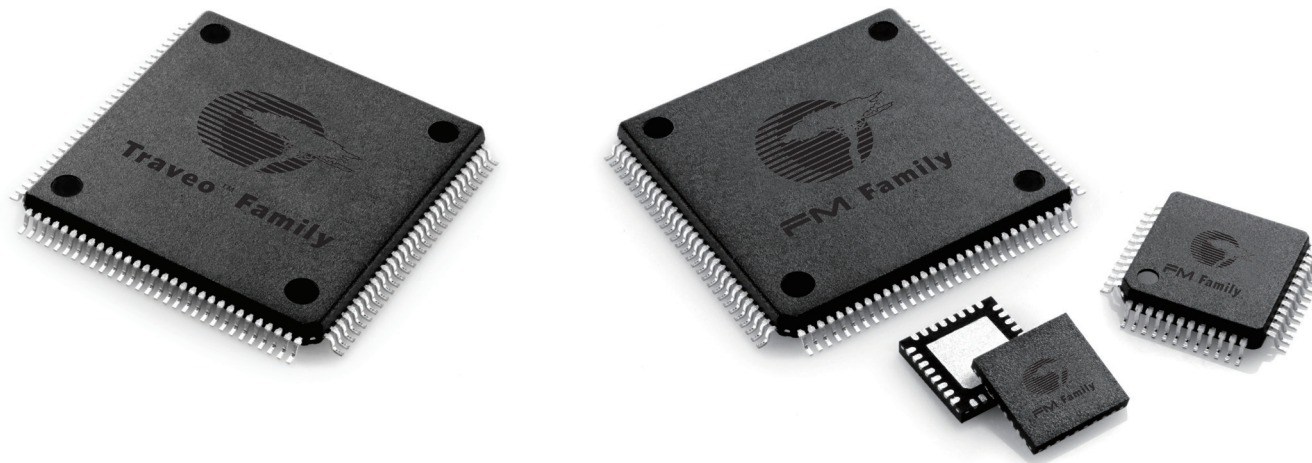
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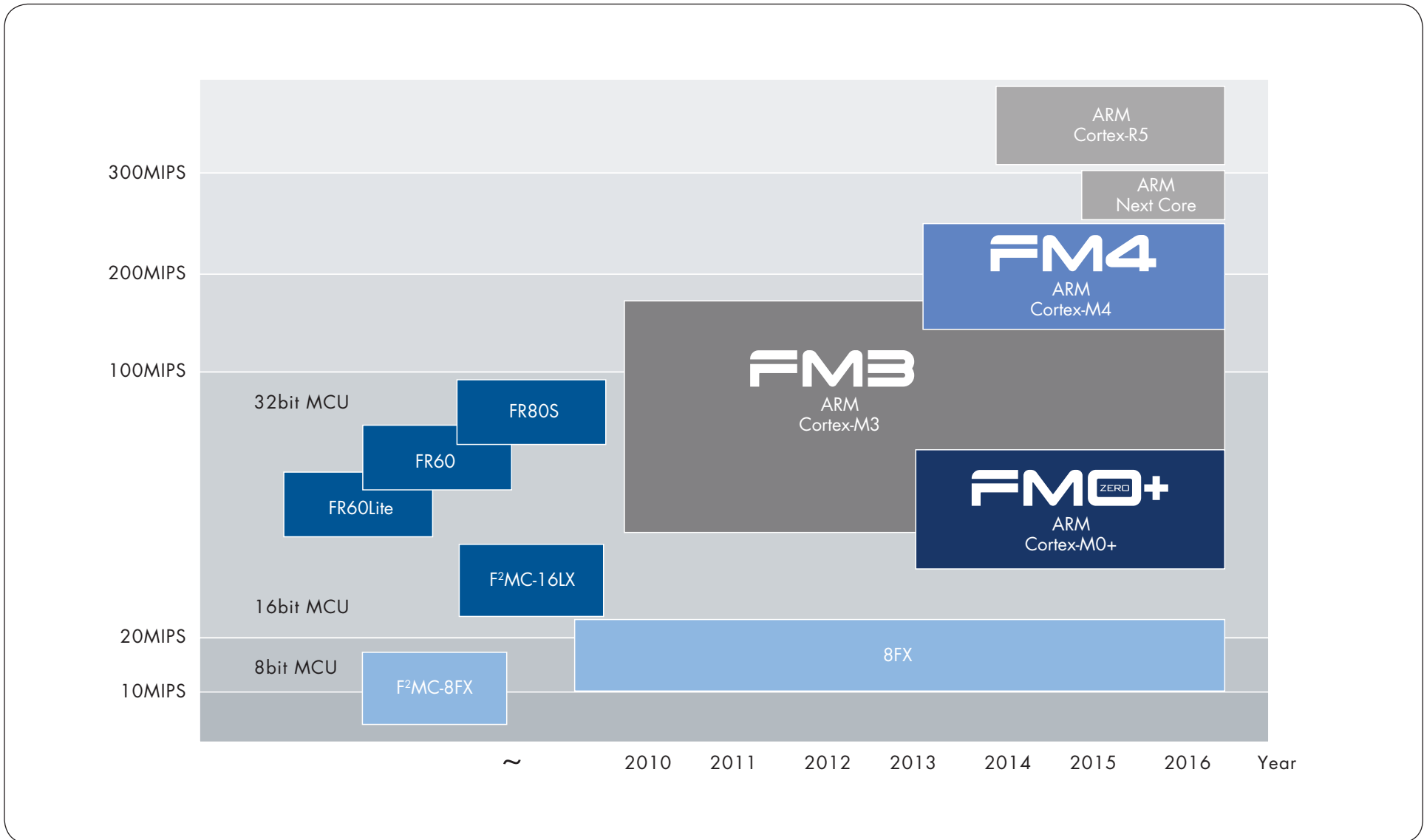


# Cypress Microcontroller

## PRODUCT SELECTOR GUIDE

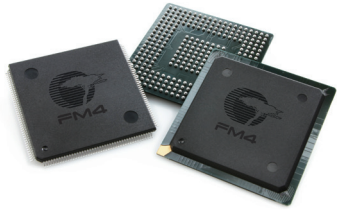


# Consumer and Industrial MCU Core Roadmap





## Consumer and Industrial MCU Family



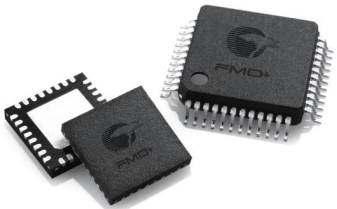
### FM4 FAMILY

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.



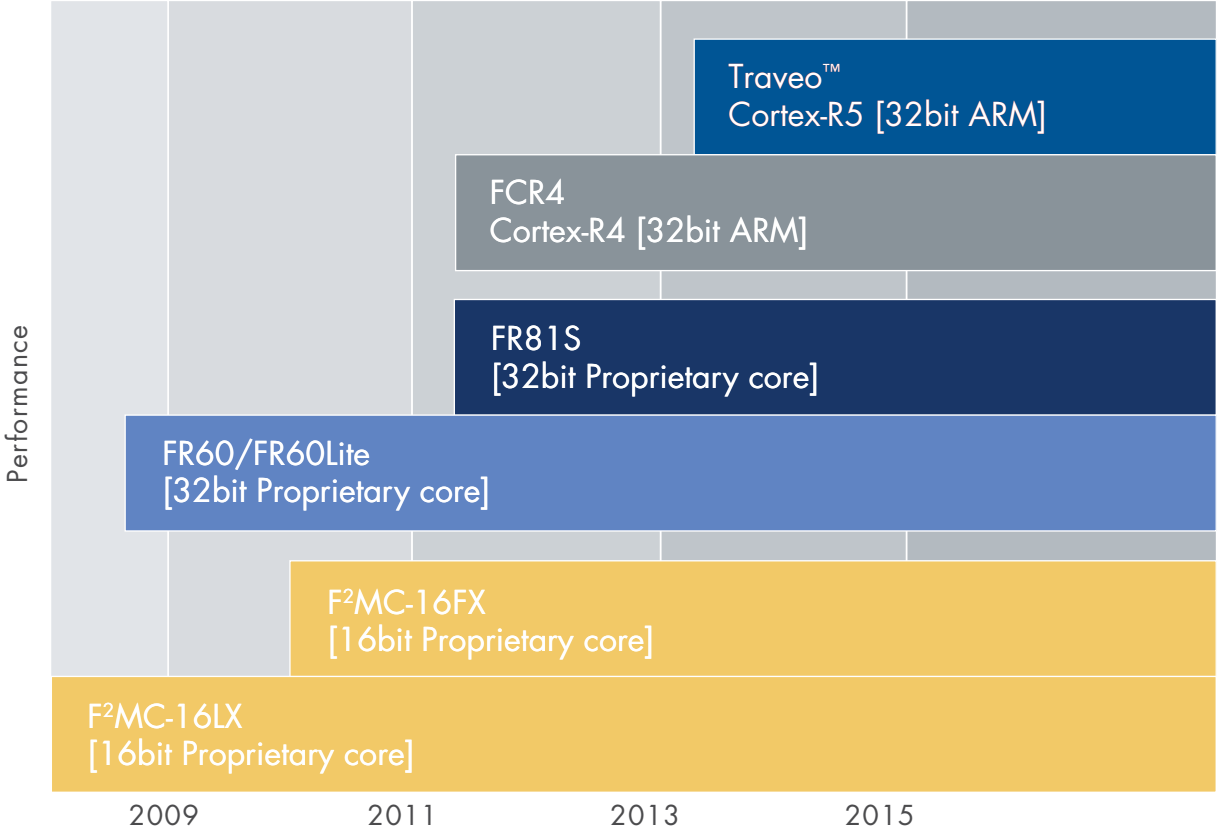
### FM0+ FAMILY

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  $\mu\text{A}/\text{MHz}$ , an RTC mode current of 0.7  $\mu\text{A}$  and wake-up time of approximately 40  $\mu\text{s}$ .

### 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.

# Automotive MCU Core Roadmap



## Automotive MCU Family

### TRAVEO FAMILY

The Cypress Traveo™ family expands the company's automotive application coverage, scalability and high performance into one line-up and at the same time adds new features to fulfill the latest requirements of the automotive industry. Based on the powerful ARM® Cortex®-R5 and R5F core in single and dual core operations, it offers state-of-the-art real-time performance, safety and security features.

The family supports the latest in-car networks and offers high performance graphics engines optimized for a minimum memory footprint and embeds dedicated features to increase data security in the car.

#### High-level Traveo Features

- ARM Cortex-R5 core
- Dual core
- Embedded twin-motor control with internal R/D converter
- Embedded 2D and 3D graphics engines
- High performance embedded flash memory
- Cypress HyperBus™: High speed serial interfaces to connect external memory
- Qualified for automotive use (AEC-Q100)
- Software support for Autosar, graphics drivers and more

### FR FAMILY

Cypress 32bit MCU families have been designed in close co-operation with major automotive customers worldwide and inherit the high-performance core of Cypress's proprietary FR MCU architecture. They support communication interfaces such as CAN, FlexRay and LIN as well as up to 2MB on-chip memory capacity. The latest members (MB915xx) also include a single precision Floating Point Unit (FPU) providing additional computing power required by complex control algorithms.

This high computing performance combined with powerful peripheral functions such as on-chip graphics controller and motor control macros, offers a higher grade of flexibility and lower cost for automotive as well as industrial applications.

Many devices offer an external bus interface which can be connected to Cypress's stand alone FlexRay controller or to the latest generation of graphics controllers in order to build full-featured dashboards, driver information systems or advanced body systems.

### FCR4 FAMILY

The FCR4 family has been specifically designed to offer an innovative, scalable solution for hybrid instrument clusters, which combine traditional meters and graphical displays. The devices offer a powerful architecture based on the ARM Cortex-R4 core and Cypress's 2D graphics engine.

#### High-level FCR4 Features

- ARM Cortex-R4 core
- Embedded 2D graphics engine
- 2MB flash, 64KB E2Flash
- Up to 208KB RAM
- Features including real-time clock/auto calibration, sound generator and I2S

### F2MC-16FX FAMILY

Cypress 16-bit flexible microcontroller series offers a scalable family concept approach to a variety of automotive and industrial applications. The scalable flash/ROM/RAM sizes with different mixtures of peripherals saves development time and costs. CAN and LIN support, on-chip LCD controller, SMC (stepper motor controller), I<sup>2</sup>C bus interface, analog input channels, external bus interface, selectable port levels for CMOS, TTL and Automotive Levels are some of the enhanced features. A security feature is incorporated, preventing unauthorized reading of the contents of the flash memory.



# 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 <sup>2</sup> C [ch]	UART/ISI [ch]	SIO [ch]	LIN/UART/SIO [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/CSI/OI2C/LIN Selectable)	2	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HG6F0A		LQFP-100																										80				
	S6E2HG6G0A		LQFP-120 BGA-121																										100				
	S6E2HG4E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	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/CSI/OI2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HG4F0A		LQFP-100																										80				
S6E2HG4G0A	LQFP-120 BGA-121		100																														
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/CSI/OI2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HE6F0A		LQFP-100																										80				
	S6E2HE6G0A		LQFP-120 BGA-121																										100				
	S6E2HE4E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	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/CSI/OI2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2HE4F0A		LQFP-100																										80				
S6E2HE4G0A	LQFP-120 BGA-121		100																														
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/CSI/OI2C/LIN Selectable)	2	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H46F0A		LQFP-100																										80				
	S6E2H46G0A		LQFP-120 BGA-121																										100				
	S6E2H44E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	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/CSI/OI2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H44F0A		LQFP-100																										80				
S6E2H44G0A	LQFP-120 BGA-121		100																														
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/CSI/OI2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H16F0A		LQFP-100																										80				
	S6E2H16G0A		LQFP-120 BGA-121																										100				
	S6E2H14E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	256K + 32K	32K	-	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/CSI/OI2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2H14F0A		LQFP-100																										80				
S6E2H14G0A	LQFP-120 BGA-121		100																														
S6E2GM w/security	S6E2GM8HHA	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	-	24 (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/CSI/OI2C/LIN Selectable)	1	2ch (USB-Host/ USB-Function Selectable)	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, Tiny I2S, Smart Card I/F, ETH, SDC, Chipher	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2GM8JHA		LQFP-176																										153				
	S6E2GM6HHA		LQFP-144				121																										
	S6E2GM6JHA		LQFP-176				153																										
S6E2GM	S6E2GM8H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	-	24 (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/CSI/OI2C/LIN Selectable)	1	2ch (USB-Host/ USB-Function Selectable)	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, Tiny I2S, Smart Card I/F, ETH, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2GM8J0A		LQFP-176																										153				
	S6E2GM6H0A		LQFP-144				121																										
	S6E2GM6J0A		LQFP-176				153																										
S6E2GK w/security	S6E2GK8HHA	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	-	24 (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/CSI/OI2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, Tiny I2S, Smart Card I/F, ETH, SDC, Chipher	On-Chip Debug (SWJ-DP/ ETM)						
	S6E2GK8JHA		LQFP-176																									153					
	S6E2GK6HHA		LQFP-144				121																										
	S6E2GK6JHA		LQFP-176				153																										
S6E2GK	S6E2GK8H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	-	24 (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/CSI/OI2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, Tiny I2S, Smart Card I/F, ETH, SDC	On-Chip Debug (SWJ-DP/ ETM)						
	S6E2GK8J0A		LQFP-176																									153					
	S6E2GK6H0A		LQFP-144				121																										
	S6E2GK6J0A		LQFP-176				153																										

# 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 [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 <sup>2</sup> C [ch]	UART/ISI [ch]	SIO [ch]				
S6E2GH	S6E2GH8H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	153	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/CSI0/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, SDC	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2GH8J0A		LQFP-176																									512K	128K	121	24 (3)	153
	S6E2GH6H0A		LQFP-144				512K	128K					121	24 (3)	153	32 (3)																
	S6E2GH6J0A		LQFP-176																													
S6E2G3	S6E2G38H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	153	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/CSI0/I2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, Tiny I2S, Smart Card I/F	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2G38J0A		LQFP-176																									512K	128K	121	24 (3)	153
	S6E2G36H0A		LQFP-144				512K	128K					121	24 (3)	153	32 (3)																
	S6E2G36J0A		LQFP-176																													
S6E2G2 w/security	S6E2G28HHA	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	153	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/CSI0/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, Chipper	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2G28JHA		LQFP-176																									512K	128K	121	24 (3)	153
	S6E2G26HHA		LQFP-144				512K	128K					121	24 (3)	153	32 (3)																
	S6E2G26JHA		LQFP-176																													
S6E2G2	S6E2G28H0A	180	LQFP-144	2.7 to 5.5	✓	Main Flash	1024K	192K	-	8	32	✓	121	24 (3)	153	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/CSI0/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	On-Chip Debug (SWJ-DP/ ETM)					
	S6E2G28J0A		LQFP-176																									512K	128K	121	24 (3)	153
	S6E2G26H0A		LQFP-144				512K	128K					121	24 (3)	153	32 (3)																
	S6E2G26J0A		LQFP-176																													
S6E2DH	S6E2DH5G0A	160	LQFP-120 TEQFP-120 BGA-161	2.7-3.6	✓	Main Flash	384K	36K	-	8	16	✓	98	-	24 (3)	-	Multi-Function Timer x 3units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG6ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	QPRC x 1	1	Multi Function Serial x 8ch (UART/CSI0/I2C/LIN Selectable)	1	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x128ch, CAN-FD 1ch, SDC, I2S 2ch, High Speed Quad SPI x1, Hyper Bus x1, GDC	On-Chip Debug (SWJ-DP/ETM)					
	S6E2DH5GJA		LQFP-120 (SiP)										90																			
	S6E2DH5J0A		LQFP-176										154																			
S6E2DF	S6E2DF5G0A	160	LQFP-120 TEQFP-120 BGA-161	2.7-3.6	✓	Main Flash	384K	36K	-	8	16	✓	98	-	24 (3)	-	Multi-Function Timer x 3units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG6ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	QPRC x 1	1	Multi Function Serial x 8ch (UART/CSI0/I2C/LIN Selectable)	1	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x128ch, CAN-FD 1ch, I2S 2ch, High Speed Quad SPI x1, Hyper Bus x1, GDC	On-Chip Debug (SWJ-DP/ETM)					
	S6E2DF5GJA		LQFP-120 (SiP)										90																			
	S6E2DF5J0A		LQFP-176										154																			
S6E2D5	S6E2D55G0A	160	LQFP-120 TEQFP-120 BGA-161	2.7-3.6	✓	Main Flash	384K	36K	-	8	16	✓	98	-	24 (3)	-	Multi-Function Timer x 3units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG6ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	QPRC x 1	1	Multi Function Serial x 8ch (UART/CSI0/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x128ch, SDC, I2S 2ch, High Speed Quad SPI x1, Hyper Bus x1, GDC	On-Chip Debug (SWJ-DP/ETM)					
	S6E2D55GJA		LQFP-120 (SiP)										90																			
	S6E2D55J0A		LQFP-176										154																			
S6E2D3	S6E2D35G0A	160	LQFP-120 TEQFP-120 BGA-161	2.7-3.6	✓	Main Flash	384K	36K	-	8	16	✓	98	-	24 (3)	-	Multi-Function Timer x 3units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG6ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	QPRC x 1	1	Multi Function Serial x 8ch (UART/CSI0/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x128ch, I2S 2ch, High Speed Quad SPI x1, Hyper Bus x1, GDC	On-Chip Debug (SWJ-DP/ETM)					
	S6E2D35GJA		LQFP-120 (SiP)										90																			
	S6E2D35J0A		LQFP-176										154																			



# 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		LDC 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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]				
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 x 256ch, SDC, I2S 1ch (without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1 (without 144pin), Programmable CRC, Eth 1ch, Chipher, Voice	On-Chip Debug (SWJ-DP/ETM/HTM)					
	S6E2CC8JGA		1M				128K																									
	S6E2CCAJFA		2M				256K																									
	S6E2CC8JFA		1M				128K																									
S6E2CC w/ Security	S6E2CCAHHA	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)	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, Eth 1ch, Chipher	On-Chip Debug (SWJ-DP/ETM/HTM)						
	S6E2CCAJHA		256K					32 (3)																								
	S6E2CCALHA		190					24 (3)																								
	S6E2CC9HHA		120					24 (3)																								
	S6E2CC9JHA		1.5M				192K	152					32 (3)	190											24 (3)							
	S6E2CC9LHA		190				24 (3)																									
	S6E2CC8HHA		120				24 (3)																									
	S6E2CC8JHA		1M				128K	152					32 (3)	190											24 (3)							
S6E2CC8LHA	120	24 (3)																														
S6E2CC	S6E2CCAH0A	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)	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, Eth 1ch	On-Chip Debug (SWJ-DP/ETM/HTM)						
	S6E2CCAJ0A		256K					32 (3)																								
	S6E2CCAL0A		190					24 (3)																								
	S6E2CC9H0A		120					24 (3)																								
	S6E2CC9J0A		1.5M				196K	152					32 (3)	190											24 (3)							
	S6E2CC9L0A		190				24 (3)																									
	S6E2CC8H0A		120				24 (3)																									
	S6E2CC8J0A		1M				128K	152					32 (3)	190											24 (3)							
S6E2CC8L0A	120	24 (3)																														
S6E2C5	S6E2C5AH0A	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)	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		256K					32 (3)																								
	S6E2C5AL0A		190					24 (3)																								
	S6E2C59H0A		120					24 (3)																								
	S6E2C59J0A		1.5M				192K	152					32 (3)	190											24 (3)							
	S6E2C59L0A		190				24 (3)																									
	S6E2C58H0A		120				24 (3)																									
	S6E2C58J0A		1M				128K	152					32 (3)	190											24 (3)							
S6E2C58L0A	120	24 (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]	16bit 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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [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)																
	S6E2C4AJ0A		LQFP-176 BGA-192																									1.5M	196K	-	8	32	✓	152	32 (3)								
	S6E2C4AL0A		LQFP-216																																	1M	128K	-	8	32	✓	190	24 (3)
	S6E2C49H0A		LQFP-144																																								
	S6E2C49J0A		LQFP-176 BGA-192				190	24 (3)																																			
	S6E2C49L0A		LQFP-216						190	24 (3)																																	
	S6E2C48H0A		LQFP-144								190	24 (3)																															
	S6E2C48J0A		LQFP-176 BGA-192										190	24 (3)																													
S6E2C48L0A	LQFP-216	190	24 (3)																																								
S6E2C3AH0A	LQFP-144			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)	-	✓																		
S6E2C3AJ0A	LQFP-176 BGA-192										1.5M	192K														-	8	32	✓	152	32 (3)												
S6E2C3AL0A	LQFP-216												1M	128K																		-	8	32	✓	190	24 (3)						
S6E2C39H0A	LQFP-144	190	24 (3)																																								
S6E2C39J0A	LQFP-176 BGA-192			190	24 (3)																																						
S6E2C39L0A	LQFP-216					190	24 (3)																																				
S6E2C38H0A	LQFP-144							190	24 (3)																																		
S6E2C38J0A	LQFP-176 BGA-192	190	24 (3)																																								
S6E2C38L0A	LQFP-216			190	24 (3)																																						
S6E2C2AH0A	LQFP-144					200	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)												
S6E2C2AJH0A	LQFP-176 BGA-192							1.5M	196K																							-	8	32	✓	152	32 (3)						
S6E2C2ALH0A	LQFP-216	1M	128K																																			-	8	32	✓	190	24 (3)
S6E2C29HH0A	LQFP-144			190	24 (3)																																						
S6E2C29JH0A	LQFP-176 BGA-192											190	24 (3)																														
S6E2C29LH0A	LQFP-216							190	24 (3)																																		
S6E2C28HH0A	LQFP-144	190	24 (3)																																								
S6E2C28JH0A	LQFP-176 BGA-192			190	24 (3)																																						
S6E2C28LH0A	LQFP-216					190	24 (3)																																				
S6E2C2AH0A	LQFP-144							200	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), High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch	On-Chip Debug (SWJ-DP/ETM/HTM)												
S6E2C2AJ0A	LQFP-176 BGA-192	1.5M	192K																													-	8	32	✓	152	32 (3)						
S6E2C2AL0A	LQFP-216			1M	128K																																	-	8	32	✓	190	24 (3)
S6E2C29H0A	LQFP-144					190	24 (3)																																				
S6E2C29J0A	LQFP-176 BGA-192											190	24 (3)																														
S6E2C29L0A	LQFP-216	190	24 (3)																																								
S6E2C28H0A	LQFP-144			190	24 (3)																																						
S6E2C28J0A	LQFP-176 BGA-192					190	24 (3)																																				
S6E2C28L0A	LQFP-216							190	24 (3)																																		
S6E2C1AH0A	LQFP-144	200	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)												
S6E2C1AJ0A	LQFP-176 BGA-192			1.5M	196K																											-	8	32	✓	152	32 (3)						
S6E2C1AL0A	LQFP-216					1M	128K																															-	8	32	✓	190	24 (3)
S6E2C19H0A	LQFP-144							190	24 (3)																																		
S6E2C19J0A	LQFP-176 BGA-192											190	24 (3)																														
S6E2C19L0A	LQFP-216			190	24 (3)																																						
S6E2C18H0A	LQFP-144					190	24 (3)																																				
S6E2C18J0A	LQFP-176 BGA-192							190	24 (3)																																		
S6E2C18L0A	LQFP-216	190	24 (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 IO port [ch]	1bit 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 <sup>2</sup> C [ch]	UART/ISI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]				
S6E2C1-E	S6E2C10H2A	200	LQFP-144	2.7 to 5.5	✓	-	0M	256K	-	8	32	✓	120	-	152	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/CSI/OI2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Chipper	On-chip Debug (SWJ-DP/ETM/HTM)							
	S6E2C10J2A		LQFP-176 BGA-192																															
	S6E2C10L2A		LQFP-216																															
MB9B560R	MB9BF566M	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	16	✓	80	-	24(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/CSI/OI2C/LIN Selectable)	2	1ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, DSTC x 128ch, Unique ID, SD Card I/F	On-chip Debug (SWJ-DP/ETM)							
	MB9BF566N		LQFP-100 QFP-100 BGA-112																															
	MB9BF566R		LQFP-120 BGA-144																															
	MB9BF567M		LQFP-80																															
	MB9BF567N		LQFP-100 QFP-100 BGA-112				768K +32K	96K																										
	MB9BF567R		LQFP-120 BGA-144																															
	MB9BF568M		LQFP-80																															
	MB9BF568N		LQFP-100 QFP-100 BGA-112																															
MB9BF568R	LQFP-120 BGA-144	1024K +32K	128K																															
MB9B460R	MB9BF466M	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	16	✓	80	-	24(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/CSI/OI2C/LIN Selectable)	2	-	-	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, DSTC x 128ch, Unique ID, SD Card I/F	On-chip Debug (SWJ-DP/ETM)							
	MB9BF466N		LQFP-100 QFP-100 BGA-112																															
	MB9BF466R		LQFP-120 BGA-144																															
	MB9BF467M		LQFP-80																															
	MB9BF467N		LQFP-100 QFP-100 BGA-112				768K +32K	96K																										
	MB9BF467R		LQFP-120 BGA-144																															
	MB9BF468M		LQFP-80																															
	MB9BF468N		LQFP-100 QFP-100 BGA-112																															
MB9BF468R	LQFP-120 BGA-144	1024K +32K	128K																															
MB9B360R	MB9BF366M	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	16	✓	80	-	24(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/CSI/OI2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Time Clock, DSTC x 128ch, Unique ID, SD Card I/F	On-chip Debug (SWJ-DP/ETM)							
	MB9BF366N		LQFP-100 QFP-100 BGA-112																															
	MB9BF366R		LQFP-120 BGA-144																															
	MB9BF367M		LQFP-80																															
	MB9BF367N		LQFP-100 QFP-100 BGA-112				768K +32K	96K																										
	MB9BF367R		LQFP-120 BGA-144																															
	MB9BF368M		LQFP-80																															
	MB9BF368N		LQFP-100 QFP-100 BGA-112																															
MB9BF368R	LQFP-120 BGA-144	1024K +32K	128K																															

# 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		LGD 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 <sup>2</sup> C [ch]	UART/IS <sup>2</sup> [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [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 <sup>2</sup> 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	16(3)				
	MB9BF167M		LQFP-80				63	16(3)																										
	MB9BF167N		LQFP-100 QFP-100 BGA-112				80	24(3)																										
	MB9BF167R		LQFP-120 BGA-144				100	16(3)																										
	MB9BF168M		LQFP-80				63	16(3)																										
	MB9BF168N		LQFP-100 QFP-100 BGA-112				80	24(3)																										
	MB9BF168R		LQFP-120 BGA-144				100	16(3)																										
MB9B560L	MB9BF564K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	15	33	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 <sup>2</sup> 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						
	MB9BF565K		LQFP-48 QFN-48				15	33																										
	MB9BF565L		LQFP-64 QFN-64				16	48																										
	MB9BF566K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	-	-	15	33	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 <sup>2</sup> 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						



# 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		LGD 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 <sup>2</sup> C [ch]	UART/IS [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [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)	QPCR x 1	1	Multi Function Serial x 6ch (UART/CSI/OI2C/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)			
	MB9BF465K		LQFP-48 QFN-48				15	33																					8(2)					
	MB9BF465L		LQFP-64 QFN-64				16	48																					15(2)					
	MB9BF466K		LQFP-48 QFN-48				15	33																					8(2)					
	MB9BF466L		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 IO 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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [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	-	-	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)	QPCR x 1	1	Multi Function Serial x 6ch (UART/CSI/OI2C/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														16											48	15(2)					
	MB9BF365K		LQFP-48 QFN-48				15	33					8(2)																					
	MB9BF365L		LQFP-64 QFN-64				16	48					15(2)																					
	MB9BF366K		LQFP-48 QFN-48				15	33					8(2)																					
	MB9BF366L		LQFP-64 QFN-64				16	48					15(2)																					
						512K +32K	64K					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)																		
													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)																	

# 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 <sup>2</sup> C [ch]	UART/IS [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]			USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	
MB9B160L	MB9BF164K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	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)	QPCR x 1	1	Multi Function Serial x 6ch (UART/CSI/OI2C/LIN Selectable)				-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)
	MB9BF164L		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)																		
	MB9BF165K		LQFP-48 QFN-48				384K +32K	48K					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)																				
	MB9BF165L		LQFP-64 QFN-64				16	48					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)																				
	MB9BF166K		LQFP-48 QFN-48				512K +32K	64K					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)																				
	MB9BF166L		LQFP-64 QFN-64				16	48					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)																				

# 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]	DMA [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	1bit 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 <sup>2</sup> C [ch]	UART/SIO [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]				
<b>HIGH-PERFORMANCE GROUP</b>																																		
MB9BD10T	MB9BFD16T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> 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																				122	24(3)					
	MB9BFD17T		LQFP-176 BGA-192				768K	96K																				122	24(3)					
	MB9BFD17S		LQFP-144				768K	96K																				122	24(3)					
	MB9BFD18T		LQFP-176 BGA-192				1M	128K																				154	32(3)					
	MB9BFD18S		LQFP-144				1M	128K																				122	24(3)					
MB9BF610T	MB9BF616T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> 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																				122	24(3)					
	MB9BF617T		LQFP-176 BGA-192				768K	96K																				122	24(3)					
	MB9BF617S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF618T		LQFP-176 BGA-192				1M	128K																				154	32(3)					
	MB9BF618S		LQFP-144				1M	128K																				122	24(3)					
MB9BF510T	MB9BF516T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> 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																				122	24(3)					
	MB9BF517T		LQFP-176 BGA-192				768K	96K																				122	24(3)					
	MB9BF517S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF518T		LQFP-176 BGA-192				1M	128K																				154	32(3)					
	MB9BF518S		LQFP-144				1M	128K																				122	24(3)					
MB9BF410T	MB9BF416T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> C/LIN Selectable)	2	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)						
	MB9BF416S		LQFP-144				768K	96K																					122	24(3)				
	MB9BF417T		LQFP-176 BGA-192				768K	96K																					122	24(3)				
	MB9BF417S		LQFP-144				768K	96K																					122	24(3)				
	MB9BF418T		LQFP-176 BGA-192				1M	128K																					154	32(3)				
	MB9BF418S		LQFP-144				1M	128K																					122	24(3)				
MB9BF310T	MB9BF316T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)							
	MB9BF316S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF317T		LQFP-176 BGA-192				768K	96K																				122	24(3)					
	MB9BF317S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF318T		LQFP-176 BGA-192				1M	128K																				154	32(3)					
	MB9BF318S		LQFP-144				1M	128K																				122	24(3)					
MB9BF210T	MB9BF216T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> 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																				122	24(3)					
	MB9BF217T		LQFP-176 BGA-192				768K	96K																				122	24(3)					
	MB9BF217S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF218T		LQFP-176 BGA-192				1M	128K																				154	32(3)					
	MB9BF218S		LQFP-144				1M	128K																				122	24(3)					
MB9BF110T	MB9BF116T	144	LQFP-176 BGA-192	2.7 to 5.5	✓	FLASH	512K	64K	-	8	32	✓	-	154	32(3)	-	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 <sup>2</sup> C/LIN Selectable)	-	-	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)							
	MB9BF116S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF117T		LQFP-176 BGA-192				768K	96K																				122	24(3)					
	MB9BF117S		LQFP-144				768K	96K																				122	24(3)					
	MB9BF118T		LQFP-176 BGA-192				1M	128K																				154	32(3)					
	MB9BF118S		LQFP-144				1M	128K																				122	24(3)					



# 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 [bit/units]	12bit AD Converter [bit/units]	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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [ch]														
<b>HIGH-PERFORMANCE GROUP</b>																																																		
MB9B510R	MB9BF512N	144	QFP-100 LQFP-100 BGA-112	2.7 to 5.5	✓	Main Flash +Work Flash	128K +32K	16K										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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I <sup>2</sup> C/LIN Selectable)	2	1ch (USB-Host/ USB-Function Selectable)	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)																				
	MB9BF512R		LQFP-120				103																																											
	MB9BF514N		QFP-100 LQFP-100 BGA-112				256K +32K	32K																																										
	MB9BF514R		LQFP-120				103																																											
	MB9BF515N		QFP-100 LQFP-100 BGA-112				384K +32K	48K																																										
	MB9BF515R		LQFP-120				103																																											
	MB9BF516N		QFP-100 LQFP-100 BGA-112				512K +32K	64K																																										
MB9BF516R	LQFP-120	103																																																
MB9B410R	MB9BF412N	144	QFP-100 LQFP-100 BGA-112	2.7 to 5.5	✓	Main Flash +Work Flash	128K +32K	16K										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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I <sup>2</sup> C/LIN Selectable)	2	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)																					
	MB9BF412R		LQFP-120				103																																											
	MB9BF414N		QFP-100 LQFP-100 BGA-112				256K +32K	32K																																										
	MB9BF414R		LQFP-120				103																																											
	MB9BF415N		QFP-100 LQFP-100 BGA-112				384K +32K	48K																																										
	MB9BF415R		LQFP-120				103																																											
	MB9BF416N		QFP-100 LQFP-100 BGA-112				512K +32K	64K																																										
MB9BF416R	LQFP-120	103																																																
MB9B310R	MB9BF312N	144	QFP-100 LQFP-100 BGA-112	2.7 to 5.5	✓	Main Flash +Work Flash	128K +32K	16K										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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I <sup>2</sup> C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)																				
	MB9BF312R		LQFP-120				103																																											
	MB9BF314N		QFP-100 LQFP-100 BGA-112				256K +32K	32K																																										
	MB9BF314R		LQFP-120				103																																											
	MB9BF315N		QFP-100 LQFP-100 BGA-112				384K +32K	48K																																										
	MB9BF315R		LQFP-120				103																																											
	MB9BF316N		QFP-100 LQFP-100 BGA-112				512K +32K	64K																																										
MB9BF316R	LQFP-120	103																																																
MB9B110R	MB9BF112N	144	QFP-100 LQFP-100 BGA-112	2.7 to 5.5	✓	Main Flash +Work Flash	128K +32K	16K										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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I <sup>2</sup> C/LIN Selectable)	-	-	-	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)																					
	MB9BF112R		LQFP-120				103																																											
	MB9BF114N		QFP-100 LQFP-100 BGA-112				256K +32K	32K																																										
	MB9BF114R		LQFP-120				103																																											
	MB9BF115N		QFP-100 LQFP-100 BGA-112				384K +32K	48K																																										
	MB9BF115R		LQFP-120				103																																											
	MB9BF116N		QFP-100 LQFP-100 BGA-112				512K +32K	64K																																										

# 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			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 <sup>2</sup> C [ch]	UART/SIO [ch]	SIO [ch]	LIN/UART/SIO [ch]		
<b>HIGH-PERFORMANCE GROUP</b>																															
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																									100			
	MB9BF505NB		LQFP-100 BGA-112																									80			
	MB9BF505RB		LQFP-120																									100			
	MB9BF506NB		LQFP-100 BGA-112																									80			
MB9BF506RB	LQFP-120	100																													
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																										100		
	MB9BF405NA		LQFP-100 BGA-112																										80		
	MB9BF405RA		LQFP-120																										100		
	MB9BF406NA		LQFP-100 BGA-112																										80		
MB9BF406RA	LQFP-120	100																													
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																									100			
	MB9BF305NB		LQFP-100 BGA-112																									80			
	MB9BF305RB		LQFP-120																									100			
	MB9BF306NB		LQFP-100 BGA-112																									80			
MB9BF306RB	LQFP-120	100																													
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																										100		
	MB9BF104NA		LQFP-100 BGA-112																										80		
	MB9BF104RA		LQFP-120				100																								
	MB9BF105NA		LQFP-100 BGA-112				384K	48K																							
	MB9BF105RA		LQFP-120				100																								
	MB9BF106NA		LQFP-100 BGA-112				512K	64K																							
MB9BF106RA	LQFP-120	100																													
<b>BASIC GROUP</b>																															
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)																											

# 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]	DIMAC [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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]	LI/UART/SIO [ch]	CAN [ch]	USB-Host [ch]					USB-Function [ch]				
<b>BASIC GROUP</b>																																								
MB9B320M	MB9BF321K	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)	-	-	-	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Unique ID, Real Time Clock	On-chip Debug (SWJ-DP)						
	MB9BF321L		LQFP-64 QFN-64																																23(2)	19	50			
	MB9BF321M		LQFP-80 BGA-96																																			26(2)	23	65
	MB9BF322K		LQFP-48 QFN-48																																					
	MB9BF322L		LQFP-64 QFN-64	23(2)		19	50																																	
	MB9BF322M		LQFP-80 BGA-96					26(2)		23	65																													
	MB9BF324K		LQFP-48 QFN-48	256K +32K		32K	14					19	50	23(2)																										
	MB9BF324L		LQFP-64 QFN-64					19		50																														
MB9BF324M	LQFP-80 BGA-96	23	65																																					
MB9BF120M	MB9BF121K				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	-	-	-	-	-	-	-	-	✓	Dual Timer, Unique ID, Real Time Clock	On-chip Debug (SWJ-DP)			
MB9BF121L	LQFP-64 QFN-64	23(2)	19	50																																				
MB9BF121M	LQFP-80 BGA-96					26(2)	23	65																																
MB9BF122K	LQFP-48 QFN-48																																							
MB9BF122L	LQFP-64 QFN-64	23(2)	19	50																																				
MB9BF122M	LQFP-80 BGA-96					26(2)	23	65																																
MB9BF124K	LQFP-48 QFN-48	256K +32K	32K	14					19		50	23(2)																												
MB9BF124L	LQFP-64 QFN-64					19	50																																	
MB9BF124M	LQFP-80 BGA-96				23			65																																
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)	QPRC x 1	1	-	-	-	-	-	-	✓	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	✓	-	24(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ AD Activation Compare 3ch Selectable)	-	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	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																																					
	MB9BF529S*		LQFP-144																																					
	MB9BF529T*		LQFP-176 BGA-192																																					
MB9B420T	MB9BF428S*	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	1	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)								
	MB9BF428T*		LQFP-176 BGA-192																																					
	MB9BF429S*		LQFP-144																																					
	MB9BF429T*		LQFP-176 BGA-192																																					

# 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			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 <sup>2</sup> C [ch]	UART/IS <sup>2</sup> [ch]	SIO [ch]	LIN/UART/SIO [ch]		
<b>BASIC GROUP</b>																															
MB9B320T	MB9BF328S*	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)	-	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				154	QPRC x 2																							
	MB9BF329S*		LQFP-144				122	QPRC x 1																							
	MB9BF329T*		LQFP-176 BGA-192				154	QPRC x 2																							
MB9B120T	MB9BF128S*	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)	-	-	-	✓	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				154	QPRC x 2																							
	MB9BF129S*		LQFP-144				122	QPRC x 1																							
	MB9BF129T*		LQFP-176 BGA-192				154	QPRC x 2																							
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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]				
<b>ULTRA LOW LEAK GROUP</b>																																	
MB9AAA0N	MB9AFAA1L	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	12K	-	-	-	-	-	-	9(1)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 8ch/ 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 <sup>2</sup> C Selectable)	-	-	-	24 x 4 or 20 x 8	✓	HDMI-CEC/Remote Control Reception x 2, Real Time Clock	On-chip Debug (SWJ-DP)					
	MB9AFAA1M		LQFP-80																										11	67	12(1)	37 x 4 or 33 x 8	
	MB9AFAA1N		LQFP-100 QFP-100																										16	84	16(1)	44 x 4 or 40 x 8	
	MB9AFAA2L		LQFP-64 QFN-64				128K	16K																					8	52	9(1)	24 x 4 or 20 x 8	
	MB9AFAA2M		LQFP-80																										11	67	12(1)	37 x 4 or 33 x 8	
	MB9AFAA2N		LQFP-100 QFP-100																										16	84	16(1)	44 x 4 or 40 x 8	
MB9A1A0N	MB9AF1A1L	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	12K	-	-	-	-	-	-	9(1)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 8ch/ 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 <sup>2</sup> C Selectable)	-	-	-	40 x 8	✓	HDMI-CEC/Remote Control Reception x 2, Real Time Clock	On-chip Debug (SWJ-DP)					
	MB9AF1A1M		LQFP-80																										11	67	12(1)	37 x 4 or 33 x 8	
	MB9AF1A1N		LQFP-100 QFP-100																										16	84	16(1)	44 x 4 or 40 x 8	
	MB9AF1A2L		LQFP-64 QFN-64				128K	16K																					8	52	9(1)	24 x 4 or 20 x 8	
	MB9AF1A2M		LQFP-80																										11	67	12(1)	37 x 4 or 33 x 8	
	MB9AF1A2N		LQFP-100 QFP-100																										16	84	16(1)	44 x 4 or 40 x 8	
MB9A130LA	MB9AF131LB	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	8K	-	-	-	-	-	-	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 <sup>2</sup> C Selectable)	-	-	-	Real Time Clock	✓	On-chip Debug (SWJ-DP)						
	MB9AF131KB		LQFP-48 QFN-48																									6	37	6(1)			
	MB9AF132LB		LQFP-64 QFN-64				8	52																				8(1)					
	MB9AF132KB		LQFP-48 QFN-48				6	37																				6(1)					

# 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 <sup>2</sup> C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [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/ 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 <sup>2</sup> C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, Fast I/O	On-chip Debug (SW-DP/MTB)				
	S6E1A11C0A		LQFP-48 QFN-48				37						8(1)																		
	S6E1A12B0A		LQFP-32 QFN-32				23						5(1)																		
	S6E1A12C0A		LQFP-48 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/I <sup>2</sup> C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	40 SEG x 8 COM / 44 SEG x 4 COM / 32 SEG x 8 COM / 36 SEG x 4 COM	-	Dual Timer, Real Time Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F, Chipher	On-Chip Debug (SWJ-DP/ Boundary SCAN)			
	S6E1B84GHA						256K + 40K	32K					65		16																
	S6E1B86FHA						512K + 40K	64K					82		23																
	S6E1B84FHA		256K + 40K				32K	102					24																		
	S6E1B86EHA		512K + 40K				64K	65					16																		
	S6E1B84EHA		256K + 40K				32K	82					23																		
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/I <sup>2</sup> C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	40 SEG x 8 COM / 44 SEG x 4 COM / 32 SEG x 8 COM / 36 SEG x 4 COM	-	Dual Timer, Real Time 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					65		16																
	S6E1B86F0A						512K + 40K	64K					82		23																
	S6E1B84F0A		256K + 40K				32K	102					24																		
	S6E1B86E0A		512K + 40K				64K	65					16																		
	S6E1B84E0A		256K + 40K				32K	82					23																		
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/I <sup>2</sup> C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	40 SEG x 8 COM / 44 SEG x 4 COM / 32 SEG x 8 COM / 36 SEG x 4 COM	-	Dual Timer, Real Time 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					65		16																
	S6E1B36F0A						512K + 40K	64K					82		23																
	S6E1B34F0A		256K + 40K				32K	102					24																		
	S6E1B36E0A		512K + 40K				64K	65					16																		
	S6E1B34E0A		256K + 40K				32K	82					23																		
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/I <sup>2</sup> C Selectable)	-	-	-	40 SEG x 8 COM / 44 SEG x 4 COM / 32 SEG x 8 COM / 36 SEG x 4 COM	-	Dual Timer, Real Time 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					65		16																
	S6E1B16F0A						512K + 40K	64K					82		23																
	S6E1B14F0A		256K + 40K				32K	102					24																		
	S6E1B16E0A		512K + 40K				64K	65					16																		
	S6E1B14E0A		256K + 40K				32K	82					23																		