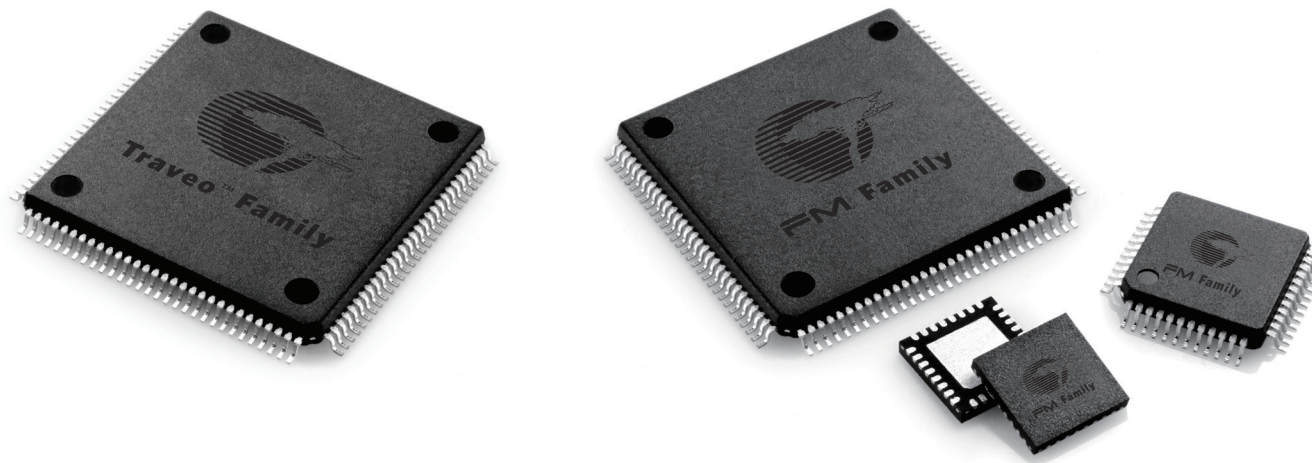


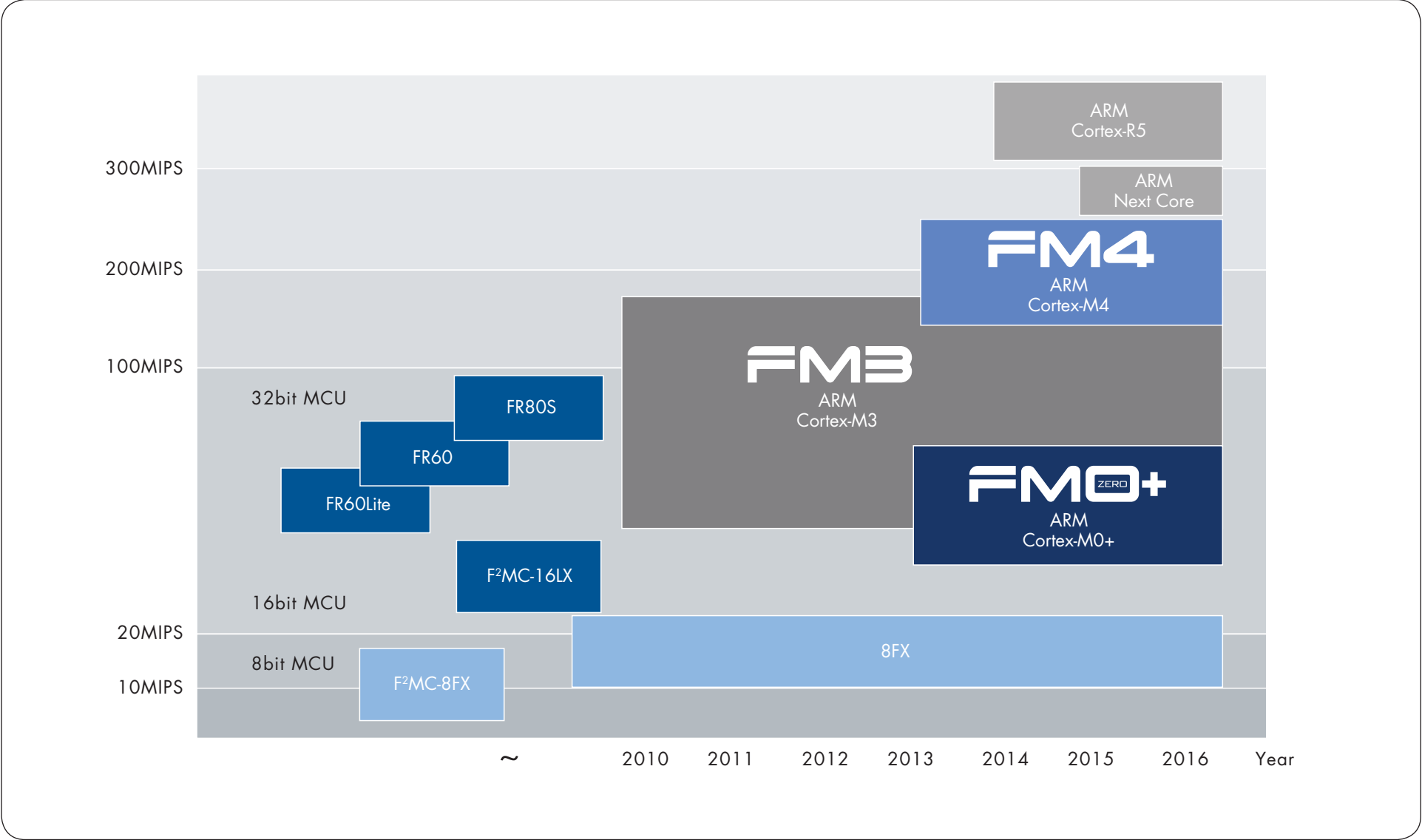


Cypress Microcontroller

PRODUCT SELECTOR GUIDE



Consumer and Industrial MCU Core Roadmap



Consumer and Industrial MCU Family



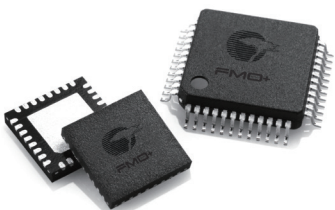
FM4 FAMILY

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.



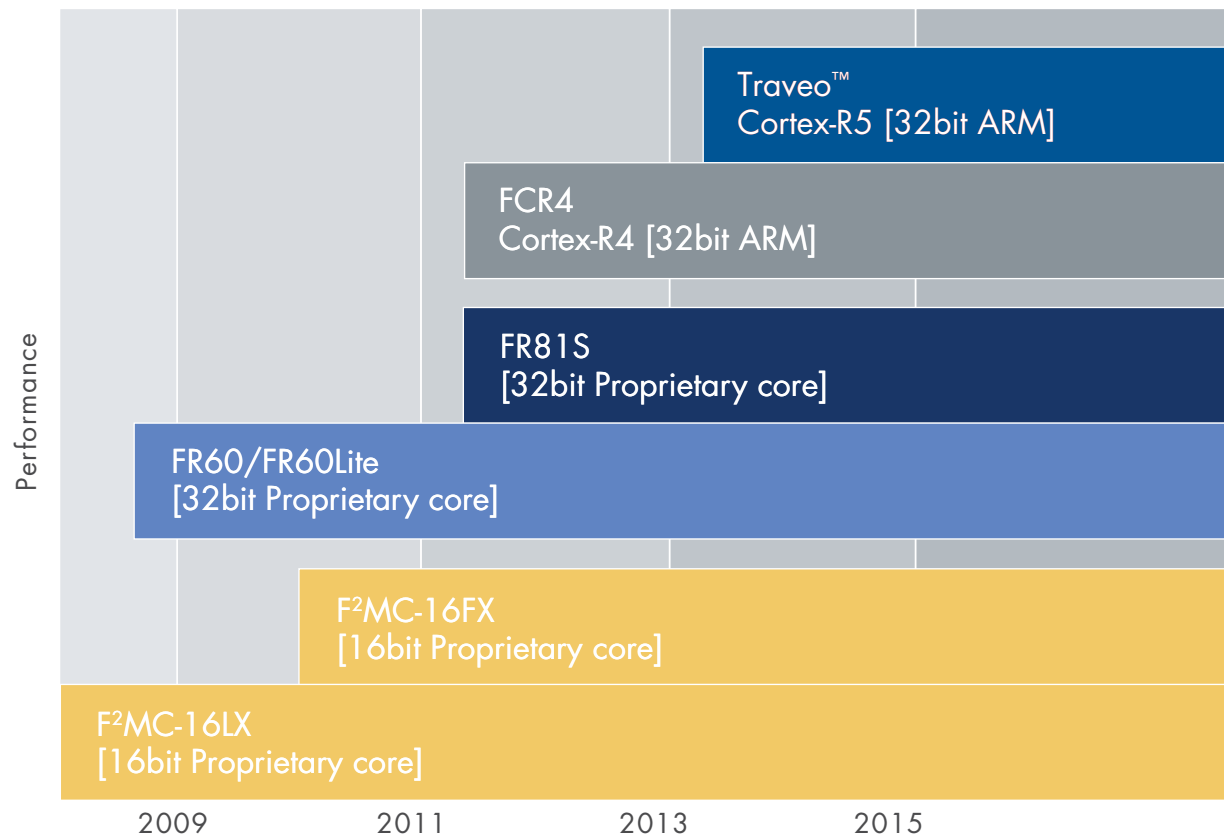
FM0+ FAMILY

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 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.

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), I²C 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		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]		
S6E2HG	S6E2HG6E0A	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K + 32K	64K	-	8	16	✓	63	-	16 (3)	-	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	2	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)				
	80		24 (3)																												
	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/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2HG4F0A		LQFP-100										80															24 (3)			
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/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2HE6F0A		LQFP-100										80															24 (3)			
	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/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2HE4F0A		LQFP-100										80															24 (3)			
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/CSIO/I2C/LIN Selectable)	2	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2H46F0A		LQFP-100										80															24 (3)			
	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/CSIO/I2C/LIN Selectable)	2	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2H44F0A		LQFP-100										80															24 (3)			
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/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2H16F0A		LQFP-100										80															24 (3)			
	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/CSIO/I2C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch	On-Chip Debug (SWJ-DP/ ETM)				
	S6E2H14F0A		LQFP-100										80															24 (3)			
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/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										153															32 (3)			
	S6E2GM6HHA		LQFP-144				121	24 (3)																							
	S6E2GM6JHA		LQFP-176				153	32 (3)																							
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/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										153															32 (3)			
	S6E2GM6H0A		LQFP-144				121	24 (3)																							
	S6E2GM6J0A		LQFP-176				153	32 (3)																							
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/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										153															32 (3)			
	S6E2GK6HHA		LQFP-144				121	24 (3)																							
	S6E2GK6JHA		LQFP-176				153	32 (3)																							
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/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										153															32 (3)			
	S6E2GK6H0A		LQFP-144				121	24 (3)																							
	S6E2GK6J0A		LQFP-176				153	32 (3)																							

CYPRESS SEMICONDUCTOR | MICROCONTROLLER PRODUCT SELECTOR GUIDE

* In development; **Planning

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [pin]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer							Serial				Communication				Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]		
S6E2CC-V	S6E2CCAJGA	200	LQFP-176 BGA-192	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	152	-	32 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)	3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC×256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch, Chipher, Voice	On-Chip Debug (SWJ-DP/ETM/ HTM)						
	1M		128K																														
	2M		256K																														
	1M		128K																														
S6E2CC w/ Security	S6E2CCAHHH	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	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, Eth1ch, Chipher	On-Chip Debug (SWJ-DP/ETM/ HTM)							
	S6E2CCAJHA		LQFP-176 BGA-192																								152	32 (3)					
	S6E2CCALHA		LQFP-216																								190	24 (3)					
	S6E2CC9HHA		LQFP-144																								120	24 (3)					
	S6E2CC9JHA		LQFP-176 BGA-192				1.5M	192K					1M	128K													152	32 (3)					
	S6E2CC9LHA		LQFP-216				190	24 (3)																									
	S6E2CC8HHA		LQFP-144				120	24 (3)																									
	S6E2CC8JHA		LQFP-176 BGA-192				152	32 (3)																									
S6E2CC8LHA	LQFP-216	190	24 (3)																														
S6E2CC	S6E2CCAH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	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, Eth1ch	On-Chip Debug (SWJ-DP/ETM/ HTM)							
	S6E2CCAJ0A		LQFP-176 BGA-192																								152	32 (3)					
	S6E2CCAL0A		LQFP-216																								190	24 (3)					
	S6E2CC9H0A		LQFP-144																								120	24 (3)					
	S6E2CC9J0A		LQFP-176 BGA-192				1.5M	196K					1M	128K													152	32 (3)					
	S6E2CC9L0A		LQFP-216				190	24 (3)																									
	S6E2CC8H0A		LQFP-144				120	24 (3)																									
	S6E2CC8J0A		LQFP-176 BGA-192				152	32 (3)																									
S6E2CC8L0A	LQFP-216	190	24 (3)																														
S6E2C5	S6E2C5AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	-	8	32	✓	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		LQFP-176 BGA-192																								152	32 (3)					
	S6E2C5AL0A		LQFP-216																								190	24 (3)					
	S6E2C59H0A		LQFP-144																								120	24 (3)					
	S6E2C59J0A		LQFP-176 BGA-192				1.5M	192K					1M	128K													152	32 (3)					
	S6E2C59L0A		LQFP-216				190	24 (3)																									
	S6E2C58H0A		LQFP-144				120	24 (3)																									
	S6E2C58J0A		LQFP-176 BGA-192				152	32 (3)																									
S6E2C58L0A	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 I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DAC 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]		
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																														
	S6E2C4AL0A		LQFP-216																														
	S6E2C49H0A		LQFP-144																														
	S6E2C49J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																				
	S6E2C49L0A		LQFP-216																														
	S6E2C48H0A		LQFP-144																														
	S6E2C48J0A		LQFP-176 BGA-192																														
S6E2C48L0A	LQFP-216																																
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)							
	S6E2C3AJ0A		LQFP-176 BGA-192																														
	S6E2C3AL0A		LQFP-216																														
	S6E2C39H0A		LQFP-144																														
	S6E2C39J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																				
	S6E2C39L0A		LQFP-216																														
	S6E2C38H0A		LQFP-144																														
	S6E2C38J0A		LQFP-176 BGA-192																														
S6E2C38L0A	LQFP-216																																
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)							
	S6E2C2AJHA		LQFP-176 BGA-192																														
	S6E2C2ALHA		LQFP-216																														
	S6E2C29HHA		LQFP-144																														
	S6E2C29JHA		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																				
	S6E2C29LHA		LQFP-216																														
	S6E2C28HHA		LQFP-144																														
	S6E2C28JHA		LQFP-176 BGA-192																														
S6E2C28LHA	LQFP-216																																
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)							
	S6E2C2AJ0A		LQFP-176 BGA-192																														
	S6E2C2AL0A		LQFP-216																														
	S6E2C29H0A		LQFP-144																														
	S6E2C29J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																				
	S6E2C29L0A		LQFP-216																														
	S6E2C28H0A		LQFP-144																														
	S6E2C28J0A		LQFP-176 BGA-192																														
S6E2C28L0A	LQFP-216																																
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)							
	S6E2C1AJ0A		LQFP-176 BGA-192																														
	S6E2C1AL0A		LQFP-216																														
	S6E2C19H0A		LQFP-144																														
	S6E2C19J0A		LQFP-176 BGA-192				1M	128K					LQFP-176 BGA-192																				
	S6E2C19L0A		LQFP-216																														
	S6E2C18H0A		LQFP-144																														
	S6E2C18J0A		LQFP-176 BGA-192																														
S6E2C18L0A	LQFP-216																																

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/ISI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [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/CSIO/I2C/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/CSIO/I2C/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					-	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/CSIO/I2C/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)																		
	MB9BF567R		LQFP-120 BGA-144																																																													
	MB9BF568M		LQFP-80																																																													
	MB9BF568N		LQFP-100 QFP-100 BGA-112																																																													
	MB9BF568R		LQFP-120 BGA-144				1024K +32K	128K																						-	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/CSIO/I2C/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)
MB9BF466M	LQFP-80																																																															
MB9BF466N	LQFP-100 QFP-100 BGA-112																																																															
MB9BF466R	LQFP-120 BGA-144																																																															
MB9BF467M	LQFP-80	768K +32K	96K	-	8	16	✓	100	-	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/I2C/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)																																					
MB9BF467N	LQFP-100 QFP-100 BGA-112																																																															
MB9BF467R	LQFP-120 BGA-144																																																															
MB9BF468M	LQFP-80																																																															
MB9BF468N	LQFP-100 QFP-100 BGA-112	1024K +32K	128K					-	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/CSIO/I2C/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)																			
MB9BF468R	LQFP-120 BGA-144																																																															
MB9BF468M	LQFP-80																																																															
MB9B360R	MB9BF366M	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)	-	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	-	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/CSIO/I ² C/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)														
	MB9BF367R		LQFP-120 BGA-144																																																													
	MB9BF368M		LQFP-80																																																													
	MB9BF368N		LQFP-100 QFP-100 BGA-112																																																													
	MB9BF368R		LQFP-120 BGA-144	1024K +32K	128K			-	8	16			✓			80	-	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)	-	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)																				
MB9BF368R	LQFP-120 BGA-144																																																															

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/ISI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]		
MB9B160R	MB9BF166M	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	8	16	✓	63	-	16(3)	12 x 2	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, DSTC x 128ch, Unique ID, SD Card I/F	On-chip Debug (SWJ-DP/ETM)					
	80		24(3)																														
	100		16(3)																														
	63																																
	MB9BF166N		LQFP-100 QFP-100 BGA-112				768K +32K	96K					80		24(3)																		
	MB9BF166R		LQFP-120 BGA-144										100		16(3)																		
	MB9BF167M		LQFP-80										63																				
	MB9BF167N		LQFP-100 QFP-100 BGA-112										1024K +32K		128K														80	24(3)			
	MB9BF167R		LQFP-120 BGA-144				100	16(3)																									
MB9BF168M	LQFP-80	63																															
MB9BF168N	LQFP-100 QFP-100 BGA-112	100	24(3)																														
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	-	-	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										48		15(2)																		
	MB9BF565K		LQFP-48 QFN-48										33		8(2)																		
	MB9BF565L		LQFP-64 QFN-64										48		15(2)																		
	MB9BF566K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	-	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)	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										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)				
	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									-	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)																		
	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									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			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]				
MB9B360L	MB9BF364K	160	LQFP-48 QFN-48	2.7 to 5.5 2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	-	8	-	-	-	12 x 2	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)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)									
	15(2)																																		
	8(2)																																		
	16		48				15(2)																												
	15		33				8(2)																												
	16		48				15(2)																												
15	33	8(2)																																	
16	48	15(2)																																	
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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	8(2)	12 x 2	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 6ch (UART/CSI/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	8(2)	12 x 2	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 6ch (UART/CSI/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				512K +32K	64K																																							-	8	-	-	-	12 x 2	8(2)	12 x 2	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 6ch (UART/CSI/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)
	MB9BF166L		LQFP-64 QFN-64																																																														

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		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 [bit]	UART/SIO [ch]	SIO [ch]	LIN/UART/SIO [ch]				
HIGH-PERFORMANCE GROUP																																	
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/I²C/LIN Selectable)	2	2ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer, Ethernet-MAC x 2ch	On-chip Debu (SWJ-DP/ETM)							
	MB9BFD16S		LQFP-144				122	24(3)																									
	MB9BFD17T		LQFP-176 BGA-192				154	32(3)																									
	MB9BFD17S		LQFP-144				122	24(3)																									
	MB9BFD18T		LQFP-176 BGA-192				154	32(3)																									
	MB9BFD18S		LQFP-144				122	24(3)																									
MB9B610T	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/I²C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Ethernet-MAC x 2ch	On-chip Debu (SWJ-DP/ETM)							
	MB9BF616S		LQFP-144				122	24(3)																									
	MB9BF617T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF617S		LQFP-144				122	24(3)																									
	MB9BF618T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF618S		LQFP-144				122	24(3)																									
MB9B510T	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/I²C/LIN Selectable)	2	2ch (USB-Host/ USB-Function Selectable)	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debu (SWJ-DP/ETM)							
	MB9BF516S		LQFP-144				122	24(3)																									
	MB9BF517T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF517S		LQFP-144				122	24(3)																									
	MB9BF518T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF518S		LQFP-144				122	24(3)																									
MB9B410T	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/I²C/LIN Selectable)	2	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debu (SWJ-DP/ETM)						
	MB9BF416S		LQFP-144				122	24(3)																									
	MB9BF417T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF417S		LQFP-144				122	24(3)																									
	MB9BF418T		LQFP-176 BGA-192				154	32(3)																									
MB9B310T	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/I2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer	On-chip Debu (SWJ-DP/ETM)							
	MB9BF316S		LQFP-144				122	24(3)																									
	MB9BF317T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF317S		LQFP-144				122	24(3)																									
	MB9BF318T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF318S		LQFP-144				122	24(3)																									
MB9B210T	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/I2C/LIN Selectable)	-	2ch (USB-Host/ USB-Function Selectable)	-	✓	Dual Timer, Ethernet-MAC x 1ch	On-chip Debu (SWJ-DP/ETM)							
	MB9BF216S		LQFP-144				122	24(3)																									
	MB9BF217T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF217S		LQFP-144				122	24(3)																									
	MB9BF218T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF218S		LQFP-144				122	24(3)																									
MB9B110T	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/I2C/LIN Selectable)	-	-	-	-	✓	Dual Timer	On-chip Debu (SWJ-DP/ETM)						
	MB9BF116S		LQFP-144				122	24(3)																									
	MB9BF117T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF117S		LQFP-144				122	24(3)																									
	MB9BF118T		LQFP-176 BGA-192				154	32(3)																									
	MB9BF118S		LQFP-144				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 [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]		
HIGH-PERFORMANCE GROUP																																		
MB9B510R	MB9BF512N	144	QFP-100 LQFP-100 BGA-112	2.7 to 5.5	✓	Main Flash +Work Flash	128K +32K	16K	-	8	16	✓	83	-	16(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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² 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					83																					
	MB9BF514R		LQFP-120				103																											
	MB9BF515N		QFP-100 LQFP-100 BGA-112				384K +32K	48K					83																					
	MB9BF515R		LQFP-120				103																											
	MB9BF516N		QFP-100 LQFP-100 BGA-112				512K +32K	64K					83																					
	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	-	8	16	✓	83	-	16(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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	2	-	-	-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)						
	MB9BF412R		LQFP-120				103																											
	MB9BF414N		QFP-100 LQFP-100 BGA-112				256K +32K	32K					83																					
	MB9BF414R		LQFP-120				103																											
	MB9BF415N		QFP-100 LQFP-100 BGA-112				384K +32K	48K					83																					
	MB9BF415R		LQFP-120				103																											
	MB9BF416N		QFP-100 LQFP-100 BGA-112				512K +32K	64K					83																					
	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	-	8	16	✓	83	-	16(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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² 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					83																					
	MB9BF314R		LQFP-120				103																											
	MB9BF315N		QFP-100 LQFP-100 BGA-112				384K +32K	48K					83																					
	MB9BF315R		LQFP-120				103																											
	MB9BF316N		QFP-100 LQFP-100 BGA-112				512K +32K	64K					83																					
	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	-	8	16	✓	83	-	16(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 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 3	1	Multi Function Serial x 8ch (UART/CSIO/I ² C/LIN Selectable)	-	-	-	-	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)						
	MB9BF112R		LQFP-120				103																											
	MB9BF114N		QFP-100 LQFP-100 BGA-112				256K +32K	32K					83																					
	MB9BF114R		LQFP-120				103																											
	MB9BF115N		QFP-100 LQFP-100 BGA-112				384K +32K	48K					83																					
	MB9BF115R		LQFP-120				103																											
	MB9BF116N		QFP-100 LQFP-100 BGA-112				512K +32K	64K					83																					

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				512K	64K																													
	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				512K	64K																													
	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				512K	64K																													
	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				512K	64K																													
	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				128K +32K																				19	50	23(2)								
	MB9BF521M		LQFP-80 BGA-96				23																				65	26(2)									
	MB9BF522K		LQFP-48 QFN-48				128K +32K	32K																			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				256K +32K	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]	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]	LIU/ART/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 1 unit (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																QPRC x 2								Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)							
	MB9BF321M		LQFP-80 BGA-96																QPRC x 1								Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)							
	MB9BF322K		LQFP-48 QFN-48																QPRC x 2								Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)							
	MB9BF322L		LQFP-64 QFN-64				256K +32K												32K	QPRC x 1							Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)							
	MB9BF322M		LQFP-80 BGA-96																	QPRC x 2							Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)							
	MB9BF324K		LQFP-48 QFN-48																															
	MB9BF324L		LQFP-64 QFN-64																															
	MB9BF324M		LQFP-80 BGA-96																															
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 1 unit (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																QPRC x 2									Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)						
	MB9BF121M		LQFP-80 BGA-96																QPRC x 1									Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)						
	MB9BF122K		LQFP-48 QFN-48																QPRC x 2									Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)						
	MB9BF122L		LQFP-64 QFN-64				256K +32K												32K	QPRC x 1								Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)						
	MB9BF122M		LQFP-80 BGA-96																	QPRC x 2								Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)						
	MB9BF124K		LQFP-48 QFN-48																															
	MB9BF124L		LQFP-64 QFN-64																															
	MB9BF124M		LQFP-80 BGA-96																															
MB9B120J	MB9BF121J	72	LQFP-32 QFN-32	2.7 to 5.5	✓	FLASH	64K	8K	-	4	7	-	23	-	8(1)	-	Multi-Function Timer x 1 unit (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 1 unit (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	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																	QPRC x 2														
	MB9BF529S*		LQFP-144				QPRC x 1																											
	MB9BF529T*		LQFP-176 BGA-192				QPRC x 2																											
MB9B420T	MB9BF428S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	-	8	32	✓	122	-	24(2)	10bit x 2	Multi-Function Timer x 1 unit (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	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																	QPRC x 2														
	MB9BF429S*		LQFP-144				QPRC x 1																											
	MB9BF429T*		LQFP-176 BGA-192				QPRC x 2																											

FM3 Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch(unit)]	12bit AD Converter [ch(unit)]	DA Converter [bit x ch]	Timer							Serial			Communication			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]		
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	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																												
	MB9BF329S*		LQFP-144																												
	MB9BF329T*		LQFP-176 BGA-192																												
MB9B120T	MB9BF128S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	-	8	32	✓	-	24(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	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																												
	MB9BF129S*		LQFP-144																												
	MB9BF129T*		LQFP-176 BGA-192																												
MB9A420L	MB9AF421K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	FLASH	64K	4K	-	-	14	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																																												
MB9A310A	MB9AF311LA	40	LQFP-64 QFN-64	2.7 to 5.5	✓	FLASH	64K	16K	-	8	-	51	9(2)	-	-	-	-	Multi-Function Timer x 1 unit (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)									
	MB9AF311MA		LQFP-80															11	66	12(3)																								
	MB9AF311NA		LQFP-100 QFP-100 BGA-112															16	✓	83	16(3)																							
	MB9AF312LA		LQFP-64 QFN-64															8	-	51	9(2)																							
	MB9AF312MA		LQFP-80															11	66	12(3)																								
	MB9AF312NA		LQFP-100 QFP-100 BGA-112															16	✓	83	16(3)																							
	MB9AF314LA		LQFP-64 QFN-64				256K	32K					7					-	51	9(2)	Multi-Function Timer x 1 unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)														Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)									
	MB9AF314MA		LQFP-80																		11	66	12(3)																					
	MB9AF314NA		LQFP-100 QFP-100 BGA-112																		16	83	16(3)																					
	MB9AF315MA		LQFP-80																		11	66	12(3)																					
	MB9AF315NA		LQFP-100 QFP-100 BGA-112**																		16	✓	83	16(3)																				
	MB9AF316MA		LQFP-80																		11	66	12(3)																					
MB9AF316NA	LQFP-100 QFP-100 BGA-112**	16	83	16(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]	DMA [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	-	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								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	✓					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		LQFP-64 QFN-64								8	-					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)												
	MB9AF112MA	40	LQFP-80				128K	16K	-	11	66	83	-	12(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)											
	MB9AF112NA		LQFP-100 QFP-100 BGA-112								16	✓					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)												
	MB9AF114LA		LQFP-64 QFN-64				256K	32K	-	8	11	66	83	-	12(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)												
	MB9AF114MA		LQFP-80														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	✓					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)												
	MB9AF115MA		LQFP-80								11	66	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)												
	MB9AF115NA		LQFP-100 QFP-100 BGA-112**				384K	32K	-	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)												
	MB9AF116MA		LQFP-80								11		66				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)												
	MB9AF116NA		LQFP-100 QFP-100 BGA-112**								16		83				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)												
MB9A310K	MB9AF311K	40	LQFP-48 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		LQFP-48 QFN-48				128K +32K										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]	DMAAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bitAD Converter [ch/unit]	12bitAD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device						
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]					USB-Function [ch]					
LOW-POWER GROUP																																									
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)				
	MB9AF154NA		LQFP-100 BGA-112								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)
	MB9AF154RA		LQFP-120								103																										Base Timer x 15ch (Reload/PPG/PWM/ PWC Selectable)	Multi Function Serial x 16ch (UART/CSIO/I2C Selectable)	On-chip Debug (SWJ-DP)		
	MB9AF155MA		LQFP-80 BGA-96				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)																												
	MB9AF155NA		LQFP-100 BGA-112				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)																												
	MB9AF155RA		LQFP-120				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)																														
	MB9AF156MA		LQFP-80 BGA-96				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)																												
	MB9AF156NA		LQFP-100 BGA-112				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)																												
	MB9AF156RA		LQFP-120				103	On-chip Debug (SWJ-DP/ETM)																																	
MB9AB40NA	MB9AFB41LB	40	LQFP-64 QFN-64	1.65 to 3.6	✓	Dual Op. Flash (Main area + Work area)	64K +32K	16K	-	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)	20 x 8	33 x 8			
	MB9AFB41NB		LQFP-100 QFP-100 BGA-112								16																								83	24(2)	40 x 8				
	MB9AFB42LB		LQFP-64 QFN-64				8			-	51	12(2)	20 x 8																												
	MB9AFB42MB		LQFP-80 BGA-96				11			66	17(2)	33 x 8																													
	MB9AFB42NB		LQFP-100 QFP-100 BGA-112				16			83	24(2)	40 x 8																													
	MB9AFB44LB		LQFP-64 QFN-64				8	-		51	12(2)	20 x 8																													
	MB9AFB44MB		LQFP-80 BGA-96				11	66		17(2)	33 x 8																														
	MB9AFB44NB		LQFP-100 QFP-100 BGA-112				16	83		24(2)	40 x 8	On-chip Debug (SWJ-DP/ETM)																													
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)																						33 x 8						
	MB9AFA41NB		LQFP-100 QFP-100 BGA-112								16	83	24(2)																						40 x 8						
	MB9AFA42LB		LQFP-64 QFN-64				8			-	51	12(2)	20 x 8																												
	MB9AFA42MB		LQFP-80 BGA-96				11			66	17(2)	33 x 8																													
	MB9AFA42NB		LQFP-100 QFP-100 BGA-112				16			83	24(2)	40 x 8																													
	MB9AFA44LB		LQFP-64 QFN-64				8	-		51	12(2)	20 x 8																													
	MB9AFA44MB		LQFP-80 BGA-96				11	66		17(2)	33 x 8																														
	MB9AFA44NB		LQFP-100 QFP-100 BGA-112				16	83		24(2)	40 x 8	On-chip Debug (SWJ-DP/ETM)																													

FM3 Family – 32bit Microcontrollers

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

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(unif)]	12bit AD Converter [bit(unif)]	DA Converter [bit x bit]	Timer							Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	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/S ⁱ [bit]	SIO [bit]	LIN/UART/SIO [bit]				
ULTRA LOW LEAK GROUP																																	
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 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																														
	MB9AFAA2M		LQFP-80																														
	MB9AFAA2N		LQFP-100 QFP-100																														
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 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																														
	MB9AF1A2M		LQFP-80																														
	MB9AF1A2N		LQFP-100 QFP-100																														
MB9A130LA	MB9AF131LB	20	LQFP-64 QFN-64	1.8 to 5.5	✓	FLASH	64K	8K	-	-	-	-	-	8	37	-	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	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			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]				
S6E1A	S6E1A11B0A	40	LQFP-32 QFN-32	2.7 to 5.5	✓	Flash	56K	6K	-	2	8	-	23	-	5(1)	-	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 4ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 3ch (UART/CSIO/I ² C/LIN Selectable)	-	-	-	✓	Dual Timer, Real Time Clock, Unique ID, Fast I/O	On-chip Debug (SW-DP/MTB)							
	S6E1A11C0A		LQFP-48 QFN-48				37						8(1)																					
	S6E1A12B0A		LQFP-32 QFN-32				23						5(1)																					
	S6E1A12C0A		LQFP-48 QFN-52 QFN-48				37						8(1)																					
S6E1B8 w/security	S6E1B86GHA	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	40 SEG x 8 COM / 44 SEG x 4 COM	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F, Chipper	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B84GHA		256K + 40K				32K	32 SEG x 8 COM / 36 SEG x 4 COM																										
	S6E1B86FHA		512K + 40K				64K	20 SEG x 8 COM / 24 SEG x 4 COM																										
	S6E1B84FHA		256K + 40K				32K																											
	S6E1B86EHA		512K + 40K				64K																											
	S6E1B84EHA		256K + 40K				32K																											
S6E1B8	S6E1B86G0A	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	40 SEG x 8 COM / 44 SEG x 4 COM	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B84G0A		256K + 40K				32K	32 SEG x 8 COM / 36 SEG x 4 COM																										
	S6E1B86F0A		512K + 40K				64K	20 SEG x 8 COM / 24 SEG x 4 COM																										
	S6E1B84F0A		256K + 40K				32K																											
	S6E1B86E0A		512K + 40K				64K																											
	S6E1B84E0A		256K + 40K				32K																											
S6E1B3	S6E1B36G0A	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B34G0A		256K + 40K				32K	-																										
	S6E1B36F0A		512K + 40K				64K	-																										
	S6E1B34F0A		256K + 40K				32K	-																										
	S6E1B36E0A		512K + 40K				64K	-																										
	S6E1B34E0A		256K + 40K				32K	-																										
S6E1B1	S6E1B16G0A	40	LQFP-120	1.65 to 3.6	✓	Main Flash +Work Flash	512K + 40K	64K	-	-	24	-	102	-	24	-	Multi-Function Timer x 1units (Free-Run 3ch/Output Compare 6ch/Input Capture 4ch /PPG3ch/Waveform Generator 3ch /AD Activation Compare 6ch Selectable), PPG3ch	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	1	Multi Function Serial x 8ch (UART/CSIO/I2C Selectable)	-	-	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP/ Boundary SCAN)							
	S6E1B14G0A		256K + 40K				32K	-																										
	S6E1B16F0A		512K + 40K				64K	-																										
	S6E1B14F0A		256K + 40K				32K	-																										
	S6E1B16E0A		512K + 40K				64K	-																										
	S6E1B14E0A		256K + 40K				32K	-																										

FM0 + Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMA0 [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bitAD Converter [ch](unit)	12bitAD Converter [ch](unit)	DA Converter [bit x ch]	Timer							Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Devices	
																	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]	LIU/ART/SIO [ch]					CAN [ch]
S6E1C3	S6E1C32D0A	40	LQFP-64	1.65 to 3.6	✓	Main Flash	128K	16K	-	-	12	-	54	-	8	-	-	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)			-	1ch (USB-Host/ USB-Function Selectable)	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC×64ch, Tiny I2S, Wakeup I2C, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP)	
	64K						12K	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																										
	S6E1C32C0A		LQFP-48				128K	16K			9		38					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial×4ch (UART/CSIO/I2C Selectable)									
	S6E1C31C0A						64K	12K			5		20					4	Multi Function Serial×2ch (UART/CSIO/I2C Selectable)															
	S6E1C32B0A		WLCSP-26				128K	16K			7		24					6	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial×6ch (UART/CSIO/I2C Selectable)								
	S6E1C31B0A						64K	12K			12		54					8	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)															Multi Function Serial×4ch (UART/CSIO/I2C Selectable)
	S6E1C32D0A		QFN-64				128K	16K			9		38						Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial×4ch (UART/CSIO/I2C Selectable)								
	S6E1C31D0A						64K	12K			7		24						Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)															
	S6E1C32C0A		QFN-48				128K	16K			12		54						Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)															
	S6E1C31C0A						64K	12K			9		38					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)																
S6E1C32B0A	QFN-32	128K	16K	7	24	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)																												
S6E1C31B0A		64K	12K	12	54	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																												
S6E1C1	S6E1C12D0A	40	LQFP-64	1.65 to 3.6	✓	Main Flash	128K	16K	-	-	12	-	54	-	8	-	-	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)			-	-	-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP)	
	64K						12K	Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																										
	S6E1C12C0A		LQFP-48				128K	16K			9		38					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial×4ch (UART/CSIO/I2C Selectable)									
	S6E1C11C0A						64K	12K			7		24					6	Multi Function Serial×6ch (UART/CSIO/I2C Selectable)															
	S6E1C12B0A		LQFP-32				128K	16K			12		54					8	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial×6ch (UART/CSIO/I2C Selectable)								
	S6E1C11B0A						64K	12K			9		38						Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)															
	S6E1C12D0A		QFN-64				128K	16K			7		24						Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)							Multi Function Serial×4ch (UART/CSIO/I2C Selectable)								
	S6E1C11D0A						64K	12K			12		54						Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)															
	S6E1C12C0A		QFN-48				128K	16K			9		38					Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C11C0A						64K	12K			7		24					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C12B0A		QFN-32				128K	16K			12		54					Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C11B0A						64K	12K			9		38					Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																

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(unt)]	DA Converter [bit x ch]	Timer						Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
LCD CONTROLLERS																																
MB95610H	MB95F613H	16	LQFP-80	2.4 to 5.5	✓	Dual Op. Flash	12K	512	-	-	8	-	-	4(1)	-	-	-	Reload Timer x 1ch + 8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	2	-	-	1	2	-	-	-	-	-	52 x 4 or 48 x 8	-	Clock Supervisor	On-chip Debug
	MB95F613K						20K	1024	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F614H						36K	1024	-	-	8	-	Clock Supervisor																			
	MB95F614K						40	41	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F616H						40	41	-	-	8	-	Clock Supervisor																			
MB95710M	MB95F714J	16	LQFP-80	1.8 to 5.5	✓	Dual Op. Flash	20K	512	-	-	8	-	-	-	8(1)	-	-	Reload Timer x 1ch + 8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	2	-	-	1	3	-	-	-	-	-	40 x 4 or 36 x 8	-	Clock Supervisor	On-chip Debug
	MB95F714M						36K	1K	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F716J						60K	2K	-	-	8	-	Clock Supervisor																			
	MB95F716M						75	75	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F718J						75	74	-	-	8	-	Clock Supervisor																			
	MB95F718M						75	74	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F718M						75	74	-	-	8	-	Clock Supervisor																			
MB95770M	MB95F774J	16	LQFP-64	1.8 to 5.5	✓	Dual Op. Flash	20K	512	-	-	8	-	-	-	8(1)	-	-	Reload Timer x 1ch + 8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	2	-	-	1	3	-	-	-	-	-	32 x 4 or 28 x 8	-	Clock Supervisor	On-chip Debug
	MB95F774M						36K	1K	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F776J						60K	2K	-	-	8	-	Clock Supervisor																			
	MB95F776M						59	58	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F778J						59	58	-	-	8	-	Clock Supervisor																			
	MB95F778M						59	58	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
INVERTER																																
MB95630H	MB95F632H	16	LQFP-32 SH-DIP-32 QFN-32	2.4 to 5.5	✓	Dual Op. Flash	8K	256	-	-	10	-	-	8(1)	-	-	-	Reload Timer x 1ch + 8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	3	-	1	1	1	-	1	-	-	-	-	✓	Low-voltage Detection Reset, Multi-pulse Generator (Reload/PPG/Waveform Sequencer), Clock Supervisor	On-chip Debug
	MB95F632K						12K	512	-	-	10	-	Clock Supervisor																			
	MB95F633H						20K	1024	-	-	10	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F633K						28	29	-	-	10	-	Clock Supervisor																			
	MB95F634H						28	29	-	-	10	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F634K						28	29	-	-	10	-	Clock Supervisor																			
	MB95F636H						28	29	-	-	10	-	Low-voltage Detection Reset, Clock Supervisor																			
MB95690K	MB95F694K	16	LQFP-44 LQFP-48 LQFP-52 QFN-48	2.88 to 5.5	✓	Dual Op. Flash	20K	512	-	-	8	-	45 LQFP44 only; 41	12(1) LQFP44 only; 8(1)	-	-	-	Reload Timer x 1ch + 8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	3	-	1	1	1	-	1	-	-	-	-	✓	Low-voltage Detection Reset, Multi-pulse Generator (Reload/PPG/Waveform Sequencer), Clock Supervisor	On-chip Debug
	MB95F696K						36K	1K	-	-	8	-	Clock Supervisor																			
	MB95F698K						60K	2K	-	-	8	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F698K						60K	2K	-	-	8	-	Clock Supervisor																			
STANDARD																																
MB95560H	MB95F562H	16	SOP-20 TSSOP-20 QFN-32	2.4 to 5.5	✓	Dual Op. Flash	8K	240	-	-	6	-	-	6(1)	-	-	-	8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	-	-	-	-	-	-	1	-	-	-	-	-	Clock Supervisor	On-chip Debug
	MB95F562K						12K	496	-	-	6	-	Low-voltage Detection Reset, Clock Supervisor																			
	MB95F563H						20K	496	-	-	6	-	Clock Supervisor																			
	MB95F563K						16</																									

8FX – 8bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer								Serial		Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device	
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SO [ch]	LIN/UART/SO [ch]					CAN [ch]
STANDARD																																		
MB95650L	MB95F652E	16	TSSOP-24 SOP-24 QFN-32	1.8 to 5.5	✓	Dual Op. Flash	8K	256	-	-	6	-	21	-	6(1)	-	-	8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	-	-	-	-	2	1	-	1	-	-	-	-	-	-	Low-voltage Detection Reset, Clock Supervisor	On-chip Debug
	MB95F652L							20																										
	MB95F653E							21																										
	MB95F653L							20																										
	MB95F654E							21																										
	MB95F654L							20																										
	MB95F656E							21																										
	MB95F656L							20																										
MB95810K	MB95F814K	16	LQFP-64	2.88 to 5.5	✓	Dual Op. Flash	20K	512	-	-	12	-	58	12(1)	-	-	-	Reload Timer x 1ch + 8/16bit Compound Timer x 2ch (Interval Timer/PWM/PWC/ Input Capture Selectable)	4	-	-	-	1	1	-	1	-	-	-	-	Low-voltage Detection Reset, Clock Supervisor	On-chip Debug		
	MB95F816K						36K	1K																										
	MB95F818K						60K	2K																										

Traveo Family – 32bit Microcontrollers

[illegible]

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/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]			USB-Host [ch]	USB-Function [ch]	LCD Controller [seg x com]
CAN/AUTOMOTIVE																																			
S6J3110	S6J3118HA	96	TEQFP -144	4.5 to 5.25	-	Main Flash +Work Flash	576K + 48K	TC-RAM: 32KB System - RAM: 16KB Backup - RAM: 8KB	Instruction: 16 Data: 16	16	16	-	116	56(2)	-	-	12	6	12	16bit Base Timer x 30ch (PWM/PPG/Reload/PWC Selectable)	-	RTC x 1ch	Multi Function Serial x 4ch (LIN/UART/SIO Selectable)	CAN - FD x 1ch	ARM Cortex-R5, SHE(Secure Hardware Extension),										
	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)									150												
	S6J311CHA						2112K + 112K	256K																											
	S6J311DHA						3136K + 112K	320K																											
	S6J311EHA	4160K + 112K	TC-RAM: 64KB System - RAM: 256KB Backup - RAM: 64KB				64(2)																												
	S6J311BJA	1600K + 112K	192K																																
	S6J311CJA	2112K + 112K	256K																																
	S6J311DJA	3136K + 112K	320K																																
S6J311EJA	4160K + 112K	TC-RAM: 64KB System - RAM: 256KB Backup - RAM: 64KB																																	

Traveo Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [Mhz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	12bit AD Converter [ch](unit)]	12bit AD Converter with 4ch sample & hold	DA Converter [bit x ch]	Timer								Serial			Communication			Three-phase Inverter	Note	Evaluation Device	
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I2C [ch]	UART/ISI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]				USB-Host [ch]
CAN/AUTOMOTIVE																																		
S6J3120	S6J3128HA	112	TEQFP -144	4.5 to 5.25	-	Main Flash +Work Flash	576K + 48K	TC-RAM: 32KB System - RAM: 16KB Backup - RAM: 8KB	Instruction: 16 Data: 16	16	16	A24/D16	112	50(2)	-	-	12	6	12	16bit Base Timer x 30ch (PWM/PPG/Reload/PWC Selectable)	2	RTC x 1ch	Multi Function Serial x 10ch (LIN/UART/SIO Selectable)	CAN-FD x 3ch	-	-	32 x 4	-	ARM Cortex-R5, SHE(Secure Hardware Extension), SMC x 4ch, Sound generator x 3ch	On-Chip Debug				
	S6J3129HA						832K + 48K	TC-RAM: 48KB System - RAM: 16KB Backup - RAM: 8KB																										
	S6J312AHA						1088K +112K	TC-RAM: 64KB System - RAM: 16KB Backup - RAM: 8KB																										
S6J3200	S6J32AAKS	160	TEQFP -208	1.1 to 1.3 3.0 to 3.6 4.5 to 5.5	✓	Main Flash +Work Flash	1088K + 112K	TC-RAM: 64KB System - RAM: 128KB Backup - RAM: 16KB VRAM: 1024KB	Instruction: 16 Data: 16	16	16	-	120	46(1)	-	-	24	12	24	Reload Timer x 14ch 16bit Base Timer x 24ch (PWM/PPG/Reload/PWC Selectable)	2	RTC x 1ch	Multi Function Serial x 12ch (LIN/UART/SIO/I2C Selectable)	CAN-FD x 4ch	-	-	30 x 4	-	ARM Cortex-R5, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D Graphic Engine, Display Output x 1ch	On-Chip Debug				
	S6J32AAKU		TEQFP -216 (0.4mm pitch)																								32 x 4							
	S6J32AALS																										128				50(1)	30 x 4		
	S6J32AALU		TEQFP -208																								120				46(1)	30 x 4		
	S6J32BAKS		TEQFP -208																								128				50(1)	32 x 4		
	S6J32BAKU		TEQFP -216 (0.4mm pitch)																								120				46(1)	30 x 4		
	S6J32BALS																										128				50(1)	32 x 4		
	S6J32BALU		TEQFP -208																								120				46(1)	30 x 4		
	S6J32CAKS		TEQFP -216 (0.4mm pitch)																								128				50(1)	32 x 4		
	S6J32CAKU		TEQFP -208																								120				46(1)	30 x 4		
	S6J32CALS		TEQFP -216 (0.4mm pitch)																								128				50(1)	32 x 4		
	S6J32CALU		TEQFP -208																								120				46(1)	30 x 4		
	S6J32DAKS		TEQFP -216 (0.4mm pitch)																								128				50(1)	32 x 4		
	S6J32DAKU																										120				46(1)	30 x 4		
	S6J32DALS																										128				50(1)	32 x 4		
S6J32DALU	TEQFP -216 (0.4mm pitch)	128	50(1)	32 x 4																														

Traveo Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	12bit AD Converter [ch/unit]	12bit AD Converter with 4ch sample & hold	DA Converter [bit x ch]	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I2C [ch]	UART/S [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device			
CAN/AUTOMOTIVE																																							
S6J3200	S6J323CKS	240	TEQFP -208	1.1 to 1.3 3.0 to 3.6 4.5 to 5.5	✓	Main Flash +Work Flash	2112K + 112K	TC-RAM: 128KB System - RAM: 128KB Backup - RAM: 16KB VRAM: 2048KB	Instruction: 16 Data: 16	16	16	-	120	46(1)	-	-	24	12	24	Reload Timer x 14ch 16bit Base Timer x 24ch (PWM/PPG/Reload/PWC Selectable)	2	RTC x 1ch	Multi Function Serial x 12ch (LIN/UART/SIO/I2C Selectable)	CAN-FD x 4ch	-	-	30 x 4	ARM Cortex-R5, Ethernet AVB, Media-LB, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D Graphic Engine, Display Output x 2ch, Sound system,	On-Chip Debug										
	S6J323CKU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J323CLS		TEQFP -208										30 x 4																										
	S6J323CLU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J324CKS		TEQFP -208										30 x 4																										
	S6J324CKU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J324CLS		TEQFP -208										30 x 4																										
	S6J324CLU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J325CKS		TEQFP -208										30 x 4																										
	S6J325CKU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J325CLS		TEQFP -208										30 x 4																										
	S6J325CLU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J326CKS		TEQFP -208										30 x 4																										
	S6J326CKU		TEQFP -216 (0.4mm pitch)										32 x 4																										
	S6J326CLS		TEQFP -208										30 x 4																										
	S6J326CLU		TEQFP -216 (0.4mm pitch)										32 x 4																										
S6J327CKS	TEQFP -208	30 x 4	ARM Cortex-R5, Ethernet AVB, Media-LB, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D+3D Graphic Engine, Display Output x 2ch, FPD-Link, Sound system,																																				
S6J327CKU	TEQFP -216 (0.4mm pitch)	32 x 4																																					
S6J327CLS	TEQFP -208	30 x 4																																					
S6J327CLU	TEQFP -216 (0.4mm pitch)	32 x 4																																					
S6J328CKS	TEQFP -208	30 x 4	ARM Cortex-R5, Ethernet AVB, Media-LB, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D+3D Graphic Engine, Display Output x 2ch, FPD-Link, Sound system																																				
S6J328CKU	TEQFP -216 (0.4mm pitch)	32 x 4																																					
S6J328CLS	TEQFP -208	30 x 4																																					
S6J328CLU	TEQFP -216 (0.4mm pitch)	32 x 4																																					

FCR4 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]	I2C [ch]	UART/S [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]				
HYBRID AUTOMOTIVE INSTRUMENTS CLUSTER																																			
MB9DF125	MB9DF125PMC	128	LQFP-176	1.1 to 1.3 3.0 to 5.5	✓	FLASH	1088	128	8	8	32	-	123	50(1)	-	-	8	8	8	10	-	-	24	2	-	1	2	3	2	2	-	-	-	ARM Cortex R4, SHE (Secure Hardware Extension), Real Time Clock, Stepper Motor Controller (SMC): 4 ch, Data Flash: 48KB, Windows Watchdog, Clock supervisor, Sound Generator, I2S: 2 ch, Quad SPI Flash Interface: 1 ch, NMI (intern/extern): 32/1 ch, CRC Hardware Module: 1 ch, Protection Unit: MPU, PPU, TPU, various Power Down modes	On-chip Debug
	MB9DF125EPMC																																ARM Cortex R4, SHE (Secure Hardware Extension), Real Time Clock, Stepper Motor Controller (SMC): 6 ch, Data Flash: 48KB, Windows Watchdog, Clock supervisor, Sound Generator, I2S: 2 ch, Quad SPI Flash Interface: 1 ch, NMI (intern/extern): 32/1 ch, CRC Hardware Module: 1 ch, Protection Unit: MPU, PPU, TPU, various Power Down modes	On-chip Debug	
MB9DF126	MB9DF126BPMC	128	LQFP-176	1.1 to 1.3 3.0 to 5.5	✓	FLASH	2176	208	16	8	32	-	110	50(1)	-	-	8	8	8	10	-	-	24	2	-	1	2	3	2	3	-	-	-	ARM Cortex R4, APIX Remote handler with 2 ch AIC (APIX Inter Connect), APIX1 Phy: 1 ch, Real Time Clock, Stepper Motor Controller (SMC): 6 ch, Data Flash: 64KB, Windows Watchdog, Clock supervisor, Sound Generator, I2S: 2 ch, Quad SPI Flash Interface: 1 ch, NMI (intern/extern): 32/1 ch, CRC Hardware Module: 1 ch, Protection Unit: MPU, PPU, TPU, various Power Down modes	On-chip Debug
MB9EF226	MB9EF226PMC	128	LQFP-176	1.1 to 1.3 3.0 to 5.5	✓	FLASH	2176	128	16	8	32	-	117	50(1)	-	-	8	8	8	10	-	-	24	2	-	1	2	3	2	2	-	-	-	ARM Cortex R4, 2D Graphics Engine: scaler, color palette, gamma correction, blending, raster operation, various alpha blending modes, run-length decoding, hor/ver flip and rotation, affine transformations, Embedded Video-RAM: 1MB, TFT Output Interface: RGB888/RSDS Output, SHE (Secure Hardware Extension), Real Time Clock, Stepper Motor Controller (SMC): 4 ch, Data Flash: 48KB, Windows Watchdog, Clock supervisor, Sound Generator, I2S: 2 ch, Quad SPI Flash Interface: 2 ch(1 ch for MCU and 1 ch for Graphic), NMI (intern/extern): 32/1 ch, MediaLB (3 wire): 1 ch, CRC Hardware Module: 1 ch, Protection Unit: MPU, PPU, TPU, various Power Down modes	On-chip Debug
	MB9EF226EPMC																																	ARM Cortex R4, 2D Graphics Engine: scaler, color palette, gamma correction, blending, raster operation, various alpha blending modes, run-length decoding, hor/ver flip and rotation, affine transformations, Embedded Video-RAM: 1MB, TFT Output Interface: RGB888/RSDS Output, SHE (Secure Hardware Extension), Real Time Clock, Stepper Motor Controller (SMC): 6 ch, Data Flash: 48KB, Windows Watchdog, Clock supervisor, Sound Generator, I2S: 2 ch, Quad SPI Flash Interface: 2 ch(1 ch for MCU and 1 ch for Graphic), NMI (intern/extern): 32/1 ch, MediaLB (3 wire): 1 ch, CRC Hardware Module: 1 ch, Protection Unit: MPU, PPU, TPU, various Power Down modes	On-chip Debug

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* In development; **Planning

[illegible]

FR Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/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]				
CAN/AUTOMOTIVE																																		
MB91590	MB91F591B	80	LQFP-208	3.0 to 3.6 4.5 to 5.5 (2 power supplies)	Main Flash +Work Flash		576K +64K	48K	-	16	16	Dedicated for GDC External Memory	61	32(1)	-	-	4	2	6	Reload Timer x 4ch + PPG Timer x 24ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	-	Multi Function Serial x 2ch (LIN/UART/ SIO/I2C Selectable)	6	3	-	-	-	-	CAN: 32/64Mg-buffer, LIN, FPU, MPU, Sound generator, SMC x 6ch, From among the RAM, 8KB can be used as BackUpRAM, Built-in 2D GDC	On-chip Debug				
	MB91F591BS												63																					
	MB91F591BH												61																					
	MB91F591BHS												63																					
	MB91F592B												61																					
	MB91F592BS												63																					
	MB91F592BH												61																					
	MB91F592BHS												63																					
	MB91F594B												61																					
	MB91F594BS												63																					
	MB91F594BH	61																																
	MB91F594BHS	63																																
	MB91F59AC	61	128	BGA-320			1088K +64K	72K	-	16	16	Dedicated for GDC External Memory	61	32(1)	-	-	4	8	12	Reload Timer x 8ch + PPG Timer x 24ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	3	Multi Function Serial x 6ch (LIN/UART SIO/I2C Selectable. However, I2C only supports ch0/ ch1)	6	3	-	-	-	For models with H suffix on part number, the initial status of the clock supervisor is off	On-chip Debug					
	MB91F59ACS	63																																
MB91F59ACH	61																																	
MB91F59ACHS	63																																	
MB91F59BC	61																																	
MB91F59BCS	63																																	
MB91F59BCH	61																																	
MB91F59BCHS	63																																	

F²MC-16FX – 16bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch(unit)]	12bit AD Converter [ch(unit)]	DA Converter [bit x ch]	Timer								Serial			Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device		
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I ² C [ch]	UART/SI [ch]	SO [ch]	LIN/UART/SIO [ch]	CAN [ch]					USB-Host [ch]	USB-Function [ch]
AUTOMOTIVE																																				
MB96310	MB96F313AS	56	LQFP-48	3.0 to 5.5	FLASH	96K	8K	-	4	11	-	36	12(1)	-	-	2	4	4 +3 (Dedicated for LIN)	4 +1 (Dedicated for PPG)	-	-	14	-	-	-	-	-	3	-	-	-	-	-	LVD, built-in CR Option without CAN	MB96V300C	
	MB96F313AW																												✓							1
	MB96F313RS																												-							-
	MB96F313RW																												✓							1
	MB96F315AS					✓																							-							
	MB96F315AW					✓																							-							
	MB96F315RS					✓																							1							
	MB96F315RW					✓																							1							
MB96320	MB96F326AS	56	LQFP-80	3.0 to 5.5	FLASH	288K	12K	-	4	15	✓	66	18(1)	-	-	6	4	12	4 +1 (Dedicated for PPG)	-	-	20	-	-	1	-	-	4	-	-	-	-	-	LVD, built-in CR Option without CAN	MB96V300C	
	MB96F326AW											✓																	-							
	MB96F326RS											✓																	2							
	MB96F326RW											✓																	-							
	MB96F326US											-																	-							
MB96330	MB96F336UW	48	LQFP-144	3.0 to 5.5	FLASH	288K	24K	-	10	16	✓	124	36(1)	-	-	12	4	10	4 +1 (Dedicated for PPG)	-	-	20	-	-	2	-	-	8	1	1ch (USB-Host/ USB-Function Selectable)	-	-	LVD, built-in CR	MB96V300C		
	MB96F338RS											✓																	-							
	MB96F338RW					✓	-																													
	MB96F338US					-	-																													
	MB96F338UW					✓	3					1ch (USB-Host/ USB-Function Selectable)																								

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/Sl [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB+Host [ch]					USB-Function [ch]																													
AUTOMOTIVE																																																																	
MB96340	MB96345RS	56	LQFP-100	3.0 to 5.5	-	MASK	160K	8K	-	6	16	✓	24(1)	-	-	8	2	8	4 +1 (Dedicated for PPG)	-	16	-	-	-	2	-	-	7	2	-	-	-	-	Option without CAN	MB96V300C																														
	MB96345RW				✓		288K	16K																					80																																				
	MB96346RS				-																								82																																				
	MB96346RW				✓																								80																																				
	MB96F345DS	40			-	FLASH	160K +64K	8K																					82							2	-	-	-	-	-	2	-	-	4	1																			
	MB96F345DW				✓			80																																																									
	MB96F346AS				-			82																																																									
	MB96F346AW				✓			80																																																									
	MB96F346RS				-			82																																																									
	MB96F346RW				✓			80																																																									
	MB96F347AS				-		16K	82																																																									
	MB96F347AW				✓			80																																																									
	MB96F347RS				-		416K	82																																																									
	MB96F347RW				✓			80																																																									
	MB96F348AS				-			82																																																									
	MB96F348AW				✓			80																																																									
	MB96F348RS				-			82																																																									
	MB96F348RW				✓			80																																																									
	MB96F348HS				-		24K	82																																																									
	MB96F348HW				✓		544K +32K	2																																																									
MB96F348HW	✓		4																																																														
MB96350	MB96F353AS	56	LQFP-64	3.0 to 5.5	-	FLASH	96K	8K	-	4	13	✓	15(1)	-	-	4	4	6 +3 (Dedicated for LIN)	4 +1 (Dedicated for PPG)	-	-	20	-	-	1	-	-	4	1	-	-	-	-	Option without CAN	MB96V300C																														
	MB96F353AW				✓			49																																																									
	MB96F353RS				-			51																																																									
	MB96F353RW				✓			49																																																									
	MB96F355AS				-			51																																																									
	MB96F355AW				✓			49																																																									
	MB96F355RS				-			51																																																									
	MB96F355RW				✓			49																																																									
	MB96F356AS				-			51																																																									
	MB96F356AW				✓			49																																																									
	MB96F356RS				-			51																																																									
	MB96F356RW				✓			49																																																									
	MB96F378HS				40		LQFP-144	3.0 to 5.5																					-							FLASH	544K +32K	28K	-	7	8	✓	22(1)	-	-	6	2	8	4 +1 (Dedicated for PPG)	-	-	12	-	-	2	-	-	6	2	-	-	72 x 4	-	SMC x 6ch Sound generator x 2ch	MB96V300C
	MB96F378HW																												✓									118																											
MB96F379RS	-		120																																																														
MB96F379RW	✓		118																																																														
MB96380	MB96384RS	56	LQFP-120	3.0 to 5.5	-	MASK	128K	6K	-	7	8	✓	16(1)	-	-	4	2	8	4 +1 (Dedicated for PPG)	5	-	8	-	-	1	-	-	5	1	-	-	65 x 4	-	SMC x 5ch Sound generator x 2ch	MB96V300C																														
	MB96384RW				✓			94																																																									
	MB96385RS				-			96																																																									
	MB96385RW				✓			94																																																									
	MB96F385RS	40			-	FLASH	160K	6K																					96							2	-	-	-	-	1	-	-	3	2																				
	MB96F385RW				✓			94																																																									
	MB96F386RS				-			96																																																									
	MB96F386RW				✓			94																																																									
	MB96F387RS				-		16K	96																																																									
	MB96F387RW				✓			94																																																									
	MB96F388HS				-			96																																																									
	MB96F388HW				✓			94																																																									
	MB96F389RS	40			-		544K +32K	28K																					94							2	-	-	-	-	1	-	-	3	1																				
	MB96F389RW				✓		96																																																										
	MB96393RS				-		94																																																										
	MB96393RW				✓		76																																																										
MB96390	MB96395RS	40	LQFP-100	3.0 to 5.5	-	MASK	96K	5K	-	-	8	-	11(1)	-	-	4	2	4	4 +1 (Dedicated for PPG)	4	-	4	-	-	1	-	-	3	1	-	-	49 x 4	-	SMC x 4ch Sound generator x 1ch	MB96V300C																														
	MB96395RW				✓			74																																																									
	MB96F395RS				-			76																																																									
	MB96F395RW				✓			74																																																									
	MB96F395RS				-			76																																																									
	MB96F395RW				✓			74																																																									

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						128.5K +32K																							1						
	MB96F615R						128.5K +32K																							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	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F622R						64.5K +32K																							1						
	MB96F623A						128.5K +32K																							1						
	MB96F623R						128.5K +32K																							1						
	MB96F625A						128.5K +32K																							1						
MB96630	MB96F625R	32	LQFP-80	2.7 to 5.5	✓	Dual Op. Flash	32.5K +32K	4K	-	4	15	-	64 (Single clock) 66 (Dual clock)	21(1)	-	-	7	3	6 +1 (Dedicated for LIN)	3	-	-	8bit x 20 16bit x 15	-	QPRC x 2	2	-	-	5	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F633A						64.5K +32K																							1						
	MB96F633R						128.5K +32K																							1						
	MB96F635A						256.5K +32K																							1						
	MB96F635R						384.5K +32K																							1						
MB96640	MB96F636R	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	256.5K +32K	24K	-	4	16	-	81 (Single clock) 79 (Dual clock)	24(1)	-	-	7	3	6 +1 (Dedicated for LIN)	5	-	-	8bit x 24 16bit x 16	-	QPRC x 2	2	-	-	6	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F637R						64.5K +32K																							1						
	MB96F643A						128.5K +32K																							1						
	MB96F643R						256.5K +32K																							1						
	MB96F645R						384.5K +32K																							1						
MB96650	MB96F646R	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	384.5K +32K	28K	-	4	16	-	101 (Single clock) 99 (Dual clock)	29(1)	-	-	7	3	6 +1 (Dedicated for LIN)	5	-	-	8bit x 32 16bit x 16	-	QPRC x 2	2	-	-	6	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F647R						64.5K +32K																							1						
	MB96F653A						128.5K +32K																							1						
	MB96F655A						256.5K +32K																							1						
	MB96F655R						384.5K +32K																							1						
MB96660	MB96F656R	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K	10K	-	4	16	-	101 (Single clock) 99 (Dual clock)	29(1)	-	-	7	3	6 +1 (Dedicated for LIN)	5	-	-	8bit x 32 16bit x 16	-	QPRC x 2	2	-	-	6	-	-	-	-	-	Option without CAN	On-chip Debug
	MB96F657R						128.5K +32K																							1						
	MB96F658R						256.5K +32K																							1						
	MB96F659R						384.5K +32K																							1						
	MB96F660R						384.5K +32K																							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	-	-	-	24 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
	MB96F673R						128.5K +32K																							1						
	MB96F675A						128.5K +32K																							1						
	MB96F675R						128.5K +32K																							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	-	-	-	32 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
	MB96F683R						128.5K +32K																							1						
	MB96F685A						128.5K +32K																							1						
	MB96F685R						128.5K +32K																							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	-	-	-	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						256.5K +32K																							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	-	-	-	44 x 4	-	SMC x 5ch Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6A5R						256.5K +32K																							1						
	MB96F6A6R						256.5K +32K																							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	-	-	-	36 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6B5R						256.5K +32K																							1						
	MB96F6B6R						256.5K +32K																							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	-	-	-	44 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
	MB96F6C5R						256.5K +32K																							1						
	MB96F6C6R																																			



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