Infineon Technologies - MB95F778MNPMC2-G-SNE2 Datasheet

Welcome to E-XFL.COM

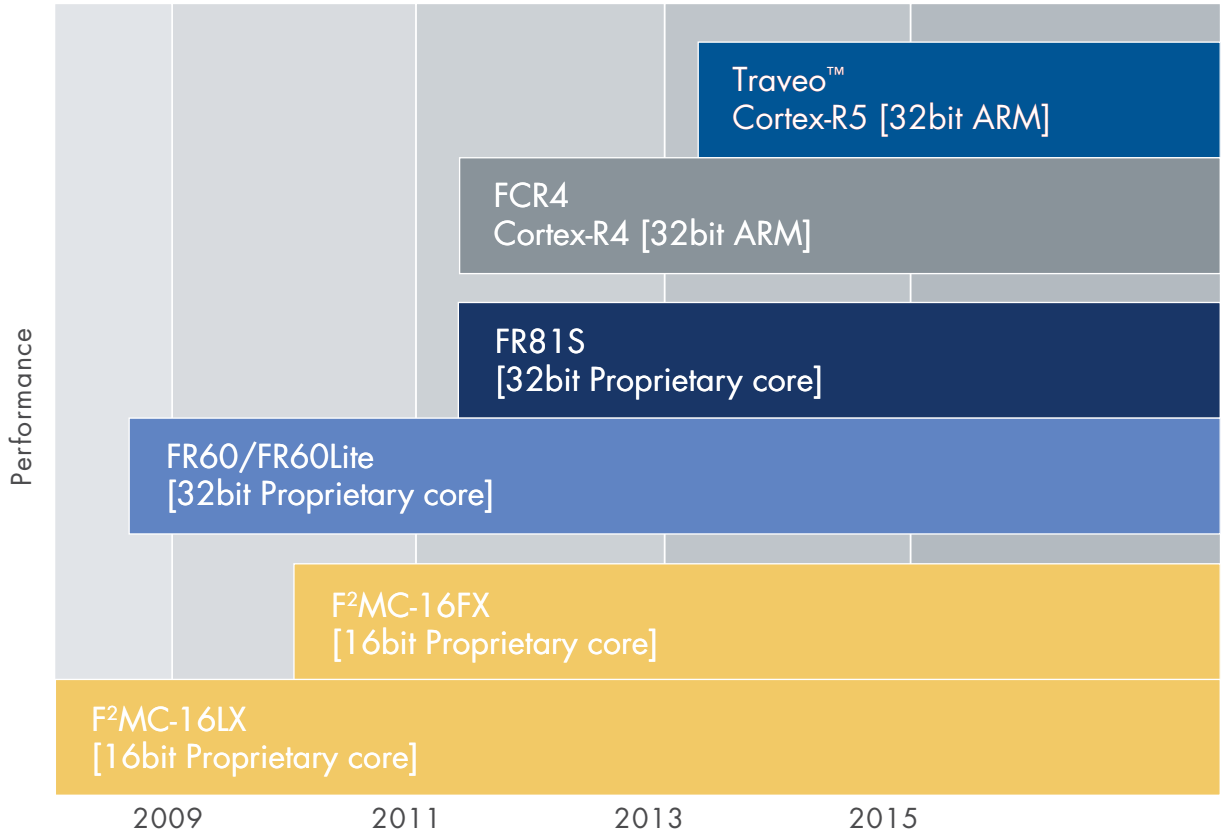
What is "Embedded - Microcontrollers"?

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

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Obsolete
Core Processor	F²MC-8FX
Core Size	8-Bit
Speed	16MHz
Connectivity	I²C, SIO, UART/USART
Peripherals	LCD, POR, PWM, WDT
Number of I/O	58
Program Memory Size	60KB (60K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	2K x 8
Voltage - Supply (Vcc/Vdd)	1.8V ~ 5.5V
Data Converters	A/D 8x8/12b
Oscillator Type	External
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	64-LQFP
Supplier Device Package	64-LQFP (12x12)
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/mb95f778mnpmc2-g-sne2

Automotive MCU Core Roadmap



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

** In development; **Planning*

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^2C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [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)
	S6E2CC8JGA		BGA-192				1M	128K																										
	S6E2CCAJFA						2M	256K																										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, Voice	
	S6E2CC8JFA						1M	128K																											
S6E2CC w/ Security	S6E2CCAHHA	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	–	8	32	✓	120	–	24 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch			Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)				3 (2 x CAN + CAN FD)	2ch (USB-Host/ USB-Function Selectable)		–	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC, Eth1ch, Chipher	On-Chip Debug (SWJ-DP/ETM/ HTM)
	S6E2CCAJHA		LQFP-176 BGA-192										152		32 (3)																				
	S6E2CCALHA		LQFP-216										190																						
	S6E2CC9HHA		LQFP-144				1.5M	192K					120		24 (3)																				
	S6E2CC9JHA		LQFP-176 BGA-192										152		32 (3)																				
	S6E2CC9LHA		LQFP-216										190																						
	S6E2CC8HHA		LQFP-144				1M	128K					120		24 (3)																				
	S6E2CC8JHA		LQFP-176 BGA-192										152		32 (3)																				
	S6E2CC8LHA		LQFP-216										190																						
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																						
	S6E2CC9H0A		LQFP-144				1.5M	196K					120		24 (3)																				
	S6E2CC9J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2CC9L0A		LQFP-216										190																						
	S6E2CC8H0A		LQFP-144				1M	128K					120		24 (3)																				
	S6E2CC8J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2CC8L0A		LQFP-216										190																						
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																						
	S6E2C59H0A		LQFP-144				1.5M	192K					120		24 (3)																				
	S6E2C59J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C59L0A		LQFP-216										190																						
	S6E2C58H0A		LQFP-144				1M	128K					120		24 (3)																				
	S6E2C58J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C58L0A		LQFP-216										190																						

** In development; **Planning*

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^2C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]				
S6E2C4	S6E2C4AH0A	200	LQFP-144	2.7 to 5.5	✓	Main Flash +Main Flash	2M	256K	–	8	32	✓	120	–	24 (3)	12 x 2	Multi-Function Timer x3units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable), PPG 9ch			Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 4	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)				3 (2 x CAN + CAN FD)	–	–	–	✓	Dual Timer, Real Timer Clock, Unique ID, DSTC x 256ch, SDC, I2S 1ch(without 144pin), HDMI-CEC 2ch, High Speed Quad SPI x1(without 144pin), Programmable CRC	On-Chip Debug (SWJ-DP/ETM/ HTM)
	S6E2C4AJ0A		LQFP-176 BGA-192										152		32 (3)																			
	S6E2C4AL0A		LQFP-216										190																						
	S6E2C49H0A		LQFP-144				1.5M	196K					120		24 (3)																				
	S6E2C49J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C49L0A		LQFP-216										190																						
	S6E2C48H0A		LQFP-144				1M	128K					120		24 (3)																				
	S6E2C48J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C48L0A		LQFP-216										190																						
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										152		32 (3)																			
	S6E2C3AL0A		LQFP-216										190																						
	S6E2C39H0A		LQFP-144				1.5M	192K					120		24 (3)																				
	S6E2C39J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C39L0A		LQFP-216										190																						
	S6E2C38H0A		LQFP-144				1M	128K					120		24 (3)																				
	S6E2C38J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C38L0A		LQFP-216										190																						
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										152		32 (3)																			
	S6E2C2ALHA		LQFP-216										190																						
	S6E2C29HHA		LQFP-144				1.5M	196K					120		24 (3)																				
	S6E2C29JHA		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C29LHA		LQFP-216										190																						
	S6E2C28HHA		LQFP-144				1M	128K					120		24 (3)																				
	S6E2C28JHA		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C28LHA		LQFP-216										190																						
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										152		32 (3)																			
	S6E2C2AL0A		LQFP-216										190																						
	S6E2C29H0A		LQFP-144				1.5M	192K					120		24 (3)																				
	S6E2C29J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C29L0A		LQFP-216										190																						
	S6E2C28H0A		LQFP-144				1M	128K					120		24 (3)																				
	S6E2C28J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C28L0A		LQFP-216										190																						
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										152		32 (3)																			
	S6E2C1AL0A		LQFP-216										190																						
	S6E2C19H0A		LQFP-144				1.5M	196K					120		24 (3)																				
	S6E2C19J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C19L0A		LQFP-216										190																						
	S6E2C18H0A		LQFP-144				1M	128K					120		24 (3)																				
	S6E2C18J0A		LQFP-176 BGA-192										152		32 (3)																				
	S6E2C18L0A		LQFP-216										190																						

** In development; **Planning*

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]	I²C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]				
MB9B160R	MB9BF166M	160	LQFP-80	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	–	8	16	✓	63	–	16(3)	12 x 2	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I²C/LIN Selectable)				–	–	–	–	✓	Dual Timer, Real Time Clock, DSTC x 128ch, Unique ID, SD Card I/F	On-chip Debug (SWJ-DP/ETM)
	MB9BF166N		LQFP-100 QFP-100 BGA-112										80		24(3)																				
	MB9BF166R		LQFP-120 BGA-144										100																						
	MB9BF167M		LQFP-80				768K +32K	96K					63		16(3)																				
	MB9BF167N		LQFP-100 QFP-100 BGA-112										80		24(3)																				
	MB9BF167R		LQFP-120 BGA-144										100																						
	MB9BF168M		LQFP-80				1024K +32K	128K					63		16(3)																				
	MB9BF168N		LQFP-100 QFP-100 BGA-112										80		24(3)																				
	MB9BF168R		LQFP-120 BGA-144										100																						
MB9B560L	MB9BF564K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	–	8	15	–	33	–	8(2)	12 x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)				1	1ch (USB-Host/ USB-Function Selectable)		–	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)
	MB9BF564L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF565K		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)																				
	MB9BF565L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF566K	160	LQFP-48 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	512K +32K	64K	–	8	15	–	33	–	8(2)	12 x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)				1	1ch (USB-Host/ USB-Function Selectable)		–	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)
	MB9BF566L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				

** In development; **Planning*

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]	I²C [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	15	–	33	–	8(2)	12 x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)				1	–	–	–	✓	CAN: 32Msg-buffer, Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)
	MB9BF464L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF465K		LQFP-48 QFN-48				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								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)																				
	MB9BF466K		LQFP-48 QFN-48				512K +32K	64K			15		33		8(2)		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF466L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				

** In development; **Planning*

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]	I²C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]				
MB9B360L	MB9BF364K	160	LQFP-48 QFN-48	2.7 to 5.5 2.7 to 5.5	✓	Main Flash +Work Flash	256K +32K	32K	–	8	15	–	33	–	8(2)	12 x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 1	1	Multi Function Serial x 6ch (UART/CSIO/I2C/LIN Selectable)				–	1ch (USB-Host/ USB-Function Selectable)		–	✓	Dual Timer, Real Time Clock, Unique ID, DSTC x 128ch	On-chip Debug (SWJ-DP)
	MB9BF364L		LQFP-64 QFN-64								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)																				
	MB9BF365K		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)																				
	MB9BF365L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF366K		LQFP-48 QFN-48				512K +32K	64K			15		33		8(2)		Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				
	MB9BF366L		LQFP-64 QFN-64								16		48		15(2)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 6ch Selectable)																				

** In development; **Planning*

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: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I²C [ch]	Serial: UART/SI [ch]	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
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 Debug (SWJ-DP/ETM)
	MB9BFD16S		LQFP-144										122		24(3)																				
	MB9BFD17T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BFD17S		LQFP-144										122		24(3)																				
	MB9BFD18T		LQFP-176 BGA-192				1M	128K					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 Debug (SWJ-DP/ETM)
	MB9BF616S		LQFP-144										122		24(3)																				
	MB9BF617T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BF617S		LQFP-144										122		24(3)																				
	MB9BF618T		LQFP-176 BGA-192				1M	128K					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 Debug (SWJ-DP/ETM)
	MB9BF516S		LQFP-144										122		24(3)																				
	MB9BF517T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BF517S		LQFP-144										122		24(3)																				
	MB9BF518T		LQFP-176 BGA-192				1M	128K					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 Debug (SWJ-DP/ETM)
	MB9BF416S		LQFP-144										122		24(3)																				
	MB9BF417T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BF417S		LQFP-144										122		24(3)																				
	MB9BF418T		LQFP-176 BGA-192				1M	128K					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 Debug (SWJ-DP/ETM)
	MB9BF316S		LQFP-144										122		24(3)																				
	MB9BF317T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BF317S		LQFP-144										122		24(3)																				
	MB9BF318T		LQFP-176 BGA-192				1M	128K					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 Debug (SWJ-DP/ETM)
	MB9BF216S		LQFP-144										122		24(3)																				
	MB9BF217T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BF217S		LQFP-144										122		24(3)																				
	MB9BF218T		LQFP-176 BGA-192				1M	128K					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 Debug (SWJ-DP/ETM)
	MB9BF116S		LQFP-144										122		24(3)																				
	MB9BF117T		LQFP-176 BGA-192				768K	96K					154		32(3)																				
	MB9BF117S		LQFP-144										122		24(3)																				
	MB9BF118T		LQFP-176 BGA-192				1M	128K					154		32(3)																				
	MB9BF118S		LQFP-144										122		24(3)																				

** In development; **Planning*

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]	I²C [ch]	UART/SI [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	✓	80	–	16(3)	–	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)		QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)				2	1ch (USB-Host/ USB-Function Selectable)		-	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)
	MB9BF504RB		LQFP-120										100																						
	MB9BF505NB		LQFP-100 BGA-112				384K	48K					80																						
	MB9BF505RB		LQFP-120										100																						
	MB9BF506NB		LQFP-100 BGA-112				512K	64K					80																						
	MB9BF506RB		LQFP-120										100																						
MB9B400A	MB9BF404NA	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	256K	32K	–	8	16	✓	80	–	16(3)	–	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)		QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)				2	–	–	–	✓	CAN: 32Msg-buffer, Dual Timer	On-chip Debug (SWJ-DP/ETM)
	MB9BF404RA		LQFP-120										100																						
	MB9BF405NA		LQFP-100 BGA-112				384K	48K					80																						
	MB9BF405RA		LQFP-120										100																						
	MB9BF406NA		LQFP-100 BGA-112				512K	64K					80																						
	MB9BF406RA		LQFP-120										100																						
MB9B300B	MB9BF304NB	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	256K	32K	–	8	16	✓	80	–	16(3)	–	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)		QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)				–	1ch (USB-Host/ USB-Function Selectable)		–	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)
	MB9BF304RB		LQFP-120										100																						
	MB9BF305NB		LQFP-100 BGA-112				384K	48K					80																						
	MB9BF305RB		LQFP-120										100																						
	MB9BF306NB		LQFP-100 BGA-112				512K	64K					80																						
	MB9BF306RB		LQFP-120										100																						
MB9B100A	MB9BF102NA	80	LQFP-100 BGA-112	2.7 to 5.5	✓	FLASH	128K	16K	–	8	16	✓	80	–	16(3)	–	Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)		QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)				–	–	–	–	✓	Dual Timer	On-chip Debug (SWJ-DP/ETM)
	MB9BF102RA		LQFP-120										100																						
	MB9BF104NA		LQFP-100 BGA-112				256K	32K					80																						
	MB9BF104RA		LQFP-120										100																						
	MB9BF105NA		LQFP-100 BGA-112				384K	48K					80																						
	MB9BF105RA		LQFP-120										100																						
	MB9BF106NA		LQFP-100 BGA-112				512K	64K					80																						
	MB9BF106RA		LQFP-120										100																						
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	14	–	35	–	14(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/ PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)		QPRC x 1	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)				1	1ch (USB-Host/ USB-Function Selectable)		–	✓	CAN: 32Msg-buffer, Dual Timer, Unique ID, Real Time Clock	On-chip Debug (SWJ-DP)
	MB9BF521L		LQFP-64 QFN-64								19		50		23(2)							QPRC x 2		Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF521M		LQFP-80 BGA-96								23		65		26(2)																				
	MB9BF522K		LQFP-48 QFN-48				128K +32K				14		35		14(2)							QPRC x 1		Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF522L		LQFP-64 QFN-64								19		50		23(2)							QPRC x 2		Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF522M		LQFP-80 BGA-96								23		65		26(2)																				
	MB9BF524K		LQFP-48 QFN-48				256K +32K	32K			14		35		14(2)							QPRC x 1		Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF524L		LQFP-64 QFN-64								19		50		23(2)							QPRC x 2		Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)										
	MB9BF524M		LQFP-80 BGA-96								23		65		26(2)																				

** In development; **Planning*

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 [bit]	I²C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [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	✓	122	–	24(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 1	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)				–	1ch (USB-Host/ USB-Function Selectable)		–	✓	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)
	MB9BF328T*		LQFP-176 BGA-192										154											QPRC x 2											
	MB9BF329S*		LQFP-144				1.5M +64K	192K					122											QPRC x 1											
	MB9BF329T*		LQFP-176 BGA-192										154											QPRC x 2											
MB9B120T	MB9BF128S*	60	LQFP-144	2.7 to 5.5	✓	Dual Op. Flash (Main area + Work area)	1M +64K	160K	–	8	32	✓	122	–	24(2)	10bit x 2	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)			Base Timer x 16ch (Reload/PPG/PWM/ PWC Selectable)				QPRC x 1	1	Multi Function Serial x 16ch (UART/CSIO/I2C/LIN Selectable)				–	–	–	–	✓	Dual Timer, HDMI-CEC/Remote Control Reception x 2, Real Time Clock, Unique ID	On-chip Debug (SWJ-DP/ETM)
	MB9BF128T*		LQFP-176 BGA-192										154											QPRC x 2											
	MB9BF129S*		LQFP-144				1.5M +64K	192K					122											QPRC x 1											
	MB9BF129T*		LQFP-176 BGA-192										154											QPRC x 2											
MB9A420L	MB9AF421K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	FLASH	64K	4K	–	–	14	–	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																							

** In development; **Planning*

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: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I²C [ch]	Serial: UART/SI [ch]	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
BASIC GROUP																																				
MB9A110A	MB9AF111LA	40	LQFP-64 QFN-64	2.7 to 5.5	✓	FLASH	64K	16K	–	8	8	-	51		9(2)	–	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 2	1	Multi Function Serial x 8ch (UART/CSIO/I2C/LIN Selectable)	–	–	–	–	✓	Dual Timer	On-chip Debug (SWJ-DP)
	MB9AF111MA		LQFP-80								11		66		12(3)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																		
	MB9AF111NA		LQFP-100 QFP-100 BGA-112								16	✓	83		16(3)																				On-chip Debug (SWJ-DP/ETM)
	MB9AF112LA		LQFP-64 QFN-64				128K				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)																	On-chip Debug (SWJ-DP)
	MB9AF112MA	40	LQFP-80				128K	16K			11		66		12(3)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																	On-chip Debug (SWJ-DP)
	MB9AF112NA		LQFP-100 QFP-100 BGA-112								16	✓	83		16(3)																				On-chip Debug (SWJ-DP/ETM)
	MB9AF114LA		LQFP-64 QFN-64				256K	32K			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)																	On-chip Debug (SWJ-DP)
	MB9AF114MA		LQFP-80								11		66		12(3)		Multi-Function Timer x 2units (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)																	
	MB9AF114NA		LQFP-100 QFP-100 BGA-112								16		83		16(3)																				On-chip Debug (SWJ-DP/ETM)
	MB9AF115MA		LQFP-80				384K				11		66		12(3)																				On-chip Debug (SWJ-DP)
	MB9AF115NA		LQFP-100 QFP-100 BGA-112**								16	✓	83		16(3)																				On-chip Debug (SWJ-DP/ETM)
	MB9AF116MA		LQFP-80				512K				11		66		12(3)																				On-chip Debug (SWJ-DP)
	MB9AF116NA		LQFP-100 QFP-100 BGA-112**								16		83		16(3)																				On-chip Debug (SWJ-DP/ETM)
MB9A310K	MB9AF311K	40	LQFP-48 LQFP-52 QFN-48	2.7 to 5.5	✓	Main Flash +Work Flash	64K +32K	16K	–	4	6	–	36	–	8(2)	–	Multi-Function Timer x 1unit (Free-Run 3ch/ Output Compare 6ch/ Input Capture 4ch/PPG 3ch/ Waveform Generator 3ch/ AD Activation Compare 3ch Selectable)	Base Timer x 8ch (Reload/PPG/PWM/ PWC Selectable)	QPRC x 1	1	Multi Function Serial x 4ch (UART/CSIO/I2C/LIN Selectable)	–	1ch (USB-Host/ USB-Function Selectable)		–	✓	Dual Timer, Real Time Clock	On-chip Debug (SWJ-DP)
	MB9AF312K						128K +32K																												
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)

** In development; **Planning*

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]	I²C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]				
S6E1C3	S6E1C32D0A	40	LQFP-64	1.65 to 3.6	✓	Main Flash	128K	16K	–	–	12	–	54	–	8	–	–	–	–	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	–	–	–	–	1	Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)				–	1ch (USB-Host/ USB-Function Selectable)		–	–	Dual Timer, Real Timer Clock, Unique ID, DSTC×64ch, Tiny I2S, Wakeup I2C, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP)
	S6E1C31D0A						64K	12K																											
	S6E1C32C0A		LQFP-48				128K	16K			9		38							Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C31C0A						64K	12K																											
	S6E1C32B0A		WLCSP-26				128K	16K			5		20		4					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)						Multi Function Serial×4ch (UART/CSIO/I2C Selectable)											
	S6E1C31B0A		LQFP-32				64K	12K			7		24		6											Multi Function Serial×2ch (UART/CSIO/I2C Selectable)											
	S6E1C32D0A		QFN-64				128K	16K			12		54		8					Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)						Multi Function Serial×6ch (UART/CSIO/I2C Selectable)											
	S6E1C31D0A						64K	12K																											
	S6E1C32C0A		QFN-48				128K	16K			9		38							Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C31C0A						64K	12K																											
	S6E1C32B0A		QFN-32				128K	16K			7		24							Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)						Multi Function Serial×4ch (UART/CSIO/I2C Selectable)											
	S6E1C31B0A						64K	12K																											
S6E1C1	S6E1C12D0A	40	LQFP-64	1.65 to 3.6	✓	Main Flash	128K	16K	-	-	12	-	54	-	8	-	-	-	-	Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)	-	-	-	-	1	Multi Function Serial x 6ch (UART/CSIO/I2C Selectable)				-	-		-	-	Dual Timer, Real Timer Clock, Unique ID, DSTC x 64ch, Tiny I2S, HDMI-CEC 2ch, CRC, Smart Card I/F	On-Chip Debug (SWJ-DP)
	S6E1C11D0A						64K	12K																											
	S6E1C12C0A		LQFP-48				128K	16K			9		38							Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C11C0A						64K	12K																											
	S6E1C12B0A		LQFP-32				128K	16K			7		24		6					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)						Multi Function Serial×4ch (UART/CSIO/I2C Selectable)											
	S6E1C11B0A						64K	12K																											
	S6E1C12D0A		QFN-64				128K	16K			12		54		8					Base Timer x 8ch (Reload/PPG/PWM/PWC Selectable)						Multi Function Serial×6ch (UART/CSIO/I2C Selectable)											
	S6E1C11D0A						64K	12K																											
	S6E1C12C0A		QFN-48				128K	16K			9		38							Base Timer x 5ch (Reload/PPG/PWM/PWC Selectable)																
	S6E1C11C0A						64K	12K																											
	S6E1C12B0A		QFN-32				128K	16K			7		24		6					Base Timer x 3ch (Reload/PPG/PWM/PWC Selectable)						Multi Function Serial×4ch (UART/CSIO/I2C Selectable)											
	S6E1C11B0A						64K	12K																											

** In development; **Planning*

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 4-ch sample & hold	DA Converter [bit x ch]	Timer: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I2C [ch]	Serial: UART/SI [ch	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
CAN/AUTOMOTIVE																																			
MB9D560	MB9DF564MA	200	TEQFP -208	1.1 to 1.3 4.5 to 5.5	–	Main Flash +Work Flash	(640K +64K) x2	64K x2	–	16	8	-	125	32(1)	8(2)	10bit x 2	32bitFree-Run Timer x 5ch 32bitInput Capture x 3unit 6ch 16bitFree-Run Timer x 20ch 16bit Input Capture x 8unit 15ch 16bitOutput Compare x 12unit 24ch Waveform Generator x 4unit 24ch	16bit Base Timer x 12ch (PWM/PPG/Reload/PWC Selectable)	4	–	Multi Function Serial x 5ch (LIN/UART/SIO Selectable)	3	–	–	–	✓	ARM Cortex-R5 CAN: 64msb, RDC x 2unit, Motor vector accelaretor x 2unit Models with A suffix on part number have no built-in FlexRay. Models with G suffix on part number have built-in FlexRay.	On-Chip Debug
	MB9DF564MG						(896K +64K) x2	96K x2																											
	MB9DF565MA																																		
	MB9DF565MG																																		
	MB9DF566MA						(1152K +64K) x2	128K x2																											
	MB9DF566MG																																		
	MB9DF564ML						(640K + 64K) x 2	64K x 2					149																							
	MB9DF564MQ																																		
	MB9DF565ML						(896K + 64K) x 2	96K x 2																											
	MB9DF565MQ																																		
	MB9DF566ML						(1152K + 64K) x 2	128K x 2																											
	MB9DF566MQ																																		
	MB9DF564LA		TEQFP -176				(640K + 64K) x 2	64K x 2					98				32bitFree-Run Timer x 5ch 32bitInput Capture x 3unit 6ch 16bitFree-Run Timer x 20ch 16bit Input Capture x 7unit 13ch 16bitOutput Compare x 9unit 18ch Waveform Generator x 3unit 18ch	16bit Base Timer x 6ch (PWM/PPG/Reload/PWC Selectable)			Multi Function Serial x 3ch (LIN/UART/SIO Selectable)						ARM Cortex-R5 RDC x 2unit Motor vector accelaretor x 2unit Models with A suffix on part number have no built-in FlexRay. Models with G suffix on part number have built-in FlexRay.	
	MB9DF564LG																																		
	MB9DF565LA						(896K + 64K) x 2	96K x 2																											
	MB9DF565LG																																		
	MB9DF566LA						(1152K + 64K) x 2	128K x 2																											
	MB9DF566LG																																		
	MB9DF564LL						(640K + 64K) x 2	64K x 2					122																							
	MB9DF564LQ																																		
	MB9DF565LL						(896K + 64K) x 2	96K x 2																											
	MB9DF565LQ																																		
	MB9DF566LL						(1152K + 64K) x 2	128K x 2																											
	MB9DF566LQ																																		

** In development; **Planning*

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 4-ch sample & hold	DA Converter [bit x ch]	Timer									Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I2C [ch]	UART/SI [ch	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]				
CAN/AUTOMOTIVE																																			
S6J3110	S6J3118HA	96	TEQFP -144	4.5 to 5.25	-	Main Flash +Work Flash	576K + 48K	TC-RAM: 32KB System - RAM: 16KB Backup - RAM: 8KB	Instruction: 16 Data: 16	16	16	-	116	56(2)	-	-	12	6	12	16bit Base Timer x 30ch (PWM/PPG/Reload/PWC Selectable)	-	RTC x 1ch	Multi Function Serial x 4ch (LIN/UART/SIO Selectable)				CAN - FD x 1ch	-	-	-	-	ARM Cortex-R5, SHE(Secure Hardware Extension),	On-Chip Debug
	S6J3119HA						832K + 48K	TC-RAM: 48KB System - RAM: 16KB Backup - RAM: 8KB																												
	S6J311AHA						1088K + 48K	TC-RAM: 64KB System - RAM: 16KB Backup - RAM: 8KB																												
	S6J311BHA	144					1600K + 112K	192K						64(2)									Multi Function Serial x 22ch (LIN/UART/SIO Selectable)				CAN - FD x 2ch	-	-	-	-	ARM Cortex-R5, SHE(Secure Hardware Extension),	
	S6J311CHA						2112K + 112K	256K																												
	S6J311DHA						3136K + 112K	320K																												
	S6J311EHA						4160K + 112K	TC-RAM: 64KB System - RAM: 256KB Backup - RAM: 64KB																												
	S6J311BJA		TEQFP -176				1600K + 112K	192K					150																							
	S6J311CJA						2112K + 112K	256K																												
	S6J311DJA						3136K + 112K	320K																												
	S6J311EJA						4160K + 112K	TC-RAM: 64KB System - RAM: 256KB Backup - RAM: 64KB																												

** In development; **Planning*

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-4-ch sample & hold	DA Converter [bit x ch]	Timer: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I2C [ch]	Serial: UART/SI [ch	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
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												128	50(1)																		32 x 4			
	S6J32AALS		TEQFP -216 (0.4mm pitch)										120	46(1)																		30 x 4		ARM Cortex-R5, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D Graphic Engine, Display Output x 1ch, Sound system,	
	S6J32AALU												128	50(1)																		32 x 4			
	S6J32BAKS		TEQFP -208										120	46(1)																		30 x 4		ARM Cortex-R5, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D+3D Graphic Engine, Display Output x 1ch,	
	S6J32BAKU												128	50(1)																		32 x 4			
	S6J32BALS		TEQFP -216 (0.4mm pitch)										120	46(1)																		30 x 4		ARM Cortex-R5, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D+3D Graphic Engine, Display Output x 1ch, Sound system,	
	S6J32BALU												128	50(1)																		32 x 4			
	S6J32CAKS		TEQFP -208										120	46(1)																		30 x 4		ARM Cortex-R5, SHE(Secure Hardware Extension), SMC x 6ch, Sound generator x 4ch, 2D+3D Graphic Engine, Display Output x 1ch, Sound system,	
	S6J32CAKU												128	50(1)																		32 x 4			
	S6J32CALS		TEQFP -216 (0.4mm pitch)										120	46(1)																		30 x 4			
	S6J32CALU												128	50(1)																		32 x 4			
	S6J32DAKS		TEQFP -208										120	46(1)																		30 x 4			
	S6J32DAKU												128	50(1)																		32 x 4			
	S6J32DALS		TEQFP -216 (0.4mm pitch)																																	
	S6J32DALU																																			

** In development; **Planning*

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/SI [ch]	SIO [ch]	LINUART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [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 Wartchdog, Clock superviser, 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 Wartchdog, Clock superviser, 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 Wartchdog, Clock superviser, 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 Wartchdog, Clock superviser, 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 Wartchdog, Clock superviser, Sound Generator, I2S: 2 ch, Quad SPI Flash Interface2 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

** In development; **Planning*

FR Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch(unit)]	12bit AD Converter [ch(unit)]	DA Converter [bit x ch]	Timer: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I²C [ch]	Serial: UART/SI [ch]	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
CAN/AUTOMOTIVE																																				
MB91520	MB91F522B MB91F523B MB91F524B MB91F525B MB91F526B	80	LQFP-64	2.7 to 5.5	* See "part number suffix" in Note	Main Flash +Work Flash	320K+64K 448K+64K 576K+64K 832K+64K 1088K+64K	56K 72K 104K 136K	–	16	16	–	44	–	13(1) 13(1)	8bit x 1	16bit x 6 32bit x 4	16bit x 3 32bit x 1	16bit x 4 32bit x 5	Reload Timer x 7ch + PPG Timer x 21ch (Reload/PPG/PWM/PWC Selectable)	2	–	Multi Function Serial x 8ch (LIN/UART/SIO/I2C Selectable)	3	–	–	–	✓	LIN, FPU, MPU, Tuning RAM MB91520B/D/F/J/K/L series: CAN: 64Msg-buffer x 2ch, 128Msg-buffer x 1ch, MB91520R/U/M/Y series: CAN: 128Msg-buffer x 6ch, FlexRay: 1 unit Details of part number suffix Dual clock system: xWC / xJC; CSV initial value: ON / OFF Single clock system: xSC / xHC; CSV initial value: ON / OFF	On-chip Debug
	MB91F522D MB91F523D MB91F524D MB91F525D MB91F526D		LQFP-80				320K+64K 448K+64K 576K+64K 832K+64K 1088K+64K	56K 72K 104K 136K					56		16(1) 16(1)			16bit x 3 32bit x 2		Reload Timer x 7ch + PPG Timer x 27ch + Base Timer x 1ch (Reload/PPG/PWM/PWC Selectable)			Multi Function Serial x 9ch (LIN/UART/SIO/I2C Selectable)										
	MB91F522F MB91F523F MB91F524F MB91F525F MB91F526F		LQFP-100				320K+64K 448K+64K 576K+64K 832K+64K 1088K+64K	56K 72K 104K 136K					76		16(1) 21(1)	8bit x 2	16bit x 6 32bit x 6	16bit x 3 32bit x 3	16bit x 4 32bit x 6	Reload Timer x 8ch + PPG Timer x 34ch + Base Timer x 1ch (Reload/PPG/PWM/PWC Selectable)			Multi Function Serial x 12ch (LIN/UART/SIO/I2C Selectable)										
	MB91F522J MB91F523J MB91F524J MB91F525J MB91F526J		LQFP-120				320K+64K 448K+64K 576K+64K 832K+64K 1088K+64K	56K 72K 104K 136K					96		16(1) 26(1)					Reload Timer x 8ch + PPG Timer x 38ch + Base Timer x 2ch (Reloa d/PPG/PWM/ PWC Selectable)													
	MB91F522K MB91F523K MB91F524K MB91F525K MB91F526K	80	LQFP-144	2.7 to 5.5	* See "part number suffix" in Note	Main Flash +Work Flash	320K+64K 448K+64K 576K+64K 832K+64K 1088K+64K	56K 72K 104K 136K	–	16	16	✓	120	–	16(1) 32(1)	8bit x 2	16bit x 6 32bit x 6	16bit x 3 32bit x 3	16bit x 4 32bit x 6	Reload Timer x 8ch + PPG Timer x 44ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	2	–	Multi Function Serial x 12ch (LIN/UART/SIO/I2C Selectable)	3	–	–	–	✓						
	MB91F527R MB91F528R		LQFP-144 TEQFP-144				1600K+64K 2112K+64K	192+16K 320K;16K					115																				
	MB91F522L MB91F523L MB91F524L MB91F525L MB91F526L		LQFP-176				320K+64K 448K+64K 576K+64K 832K+64K 1088K+64K	56K 72K 104K 136K					152		16(1) 32(1)					Reload Timer x 8ch + PPG Timer x 48ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)													
	MB91F527U MB91F528U		LQFP-176 TEQFP-176				1600K+64K 2112K+64K	192+16K 320K;16K					147																				
	MB91F527M	128	LQFP-208 TEQFP-208				1600K+64K	192+16K			24		177		32(1) 32(1)		16bit x 6 32bit x 8	16bit x 3 32bit x 8	16bit x 4 32bit x 8	Reload Timer x 8ch + PPG Timer x 64ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)	4		Multi Function Serial x 20ch (LIN/UART/SIO/I2C Selectable)										
	MB91F528M						2112K+64K	320K;16K																											
	MB91F527Y		BGA-416				1600K+64K	192+16K					219							Reload Timer x 8ch + PPG Timer x 88ch + Base Timer x 2ch (Reload/PPG/PWM/PWC Selectable)													
	MB91F528Y						2112K+64K	320K;16K																											
MB91550	MB91F552	80	LQFP-64	4.5 to 5.5	-	Main Flash +Work Flash	192K+64K	24K	-	8	4	-	30	-	8(1) 4ch S/H(1)	-	-	1	1	Reload Timer ×5ch + PWM Timer ×6ch(2ch×3 pairs) + PWC Timer ×2ch + Base Timer ×4ch (Reload/PPG/PWM/PWC Selectable)	-	-	Multi Function Serial×3ch (UART/SIO/LIN Selectable)	-	1	-	-	-	-	Comparator: 3ch, Slope Compensation: 1ch	On-Chip Debug

** In development; **Planning*

FR Family – 32bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit]	12bit AD Converter [ch/unit]	DA Converter [bit x ch]	Timer: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I²C [ch]	Serial: UART/SI [ch]	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
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: 32/64Msg-buffer, LIN, FPU, MPU, Sound generator, SMC x 6ch, From among the RAM, 8KB can be used as BackUpRAM, Built-in 2D GDC For models with H suffix on part number, the initial status of the clock supervisor is off	On-chip Debug
	MB91F591BS				–								63																							
	MB91F591BH				✓								61																							
	MB91F591BHS				–								63																							
	MB91F592B				✓								61																							
	MB91F592BS				–								63																							
	MB91F592BH				✓								61																							
	MB91F592BHS				–								63																							
	MB91F594B				✓		1088K +64K	72K					61																							
	MB91F594BS				–								63																							
	MB91F594BH				✓								61																							
	MB91F594BHS				–								63																							
	MB91F59AC	128	BGA-320		✓		1600K +64K	264K					61				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)											
	MB91F59ACS				–								63																							
	MB91F59ACH				✓								61																							
	MB91F59ACHS				–								63																							
	MB91F59BC				✓		2112K +64K	264K					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: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I²C [ch]	Serial: UART/SI [ch]	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
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				✓								34																	1						
	MB96F313RS				–								36																	–						
	MB96F313RW				✓								34																	1						
	MB96F315AS				–		160K						36																							
	MB96F315AW				✓								34																							
	MB96F315RS				–								36																							
	MB96F315RW				✓								34																							
MB96320	MB96F326AS	56	LQFP-80	3.0 to 5.5	–	FLASH	288K	12K	–	4	15	✓	66	18(1)	–	–	6	4	12	4 +1 (Dedicated for PPG)	–	–	20	–	–	1	–	–	4	-	–	–	–	–	LVD, built-in CR Option without CAN	MB96V300C
	MB96F326AW				✓								64																	2						
	MB96F326RS				–								66																							
	MB96F326RW				✓								64																							
MB96330	MB96F336US	48	LQFP-144	3.0 to 5.5	–	FLASH	288K	24K	–	10	16	✓	124	36(1)	–	–	12	4	10	4 +1 (Dedicated for PPG)	–	–	20	–	–	2	–	–	8	1	1ch (USB-Host/ USB-Function Selectable)		–	–	LVD, built-in CR	MB96V300C
	MB96F336UW				✓								122																							
	MB96F338RS				–		544K	32K					124	40(1)																3	–	–				
	MB96F338RW				✓								122																							
	MB96F338US				–								120	36(1)																						
	MB96F338UW				✓								118																		1ch (USB-Host/ USB-Function Selectable)					

** In development; **Planning*

F²MC-16FX – 16bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch/unit)]	12bit AD Converter [ch/unit)]	DA Converter [bit x ch]	Timer: Output Compare [ch]	Timer: Free-Run Timer [ch]	Timer: Input Capture [ch]	Timer: Reload Timer [ch]	Timer: PWM Timer [ch]	Timer: PWC Timer [ch]	Timer: PPG Timer [ch]	Timer: Up/Down Counter [ch]	Timer: Other timers [ch]	Serial: I^2C [ch]	Serial: UART/SI [ch]	Serial: SIO [ch]	Serial: LIN/UART/SIO [ch]	Communication: CAN [ch]	Communication: USB-Host [ch]	Communication: USB-Function [ch]	LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
AUTOMOTIVE																																				
MB96340	MB96345RS	56	LQFP-100	3.0 to 5.5	–	MASK	160K	8K	–	6	16	✓	82	24(1)	–	–	8	2	8	4 +1 (Dedicated for PPG)	–	16	–	–	–	2	–	–	7	2	–	–	–	–	Option without CAN	MB96V300C
	MB96345RW				✓								80																						
	MB96346RS				–		288K	16K					82																						
	MB96346RW				✓								80																						
	MB96F345DS	40			–	FLASH	160K +64K	8K					82																	1					
	MB96F345DW				✓								80																						
	MB96F346AS	56			–		288K	16K					82																	-					
	MB96F346AW				✓								80																						
	MB96F346RS				–								82																	2					
	MB96F346RW				✓								80																						
	MB96F347AS				–		416K						82																	-					
	MB96F347AW				✓								80																						
	MB96F347RS				–								82																	2					
	MB96F347RW				✓								80																						
	MB96F348AS				–		544K	24K					82																	-					
	MB96F348AW				✓								80																						
	MB96F348RS				–								82																	2					
	MB96F348RW				✓								80																						
	MB96F348HS				–		544K +32K						82																4						
	MB96F348HW				✓								80																						
MB96350	MB96F353AS	56	LQFP-64	3.0 to 5.5	–	FLASH	96K	8K	–	4	13	✓	51	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				–		160K						51																						
	MB96F355AW				✓								49																						
	MB96F355RS				–								51																						
	MB96F355RW				✓								49																						
	MB96F356AS				–		288K	12K					51																						
	MB96F356AW				✓								49																						
	MB96F356RS				–								51																						
	MB96F356RW				✓								49																						
MB96370	MB96F378HS	40	LQFP-144	3.0 to 5.5	–	FLASH	544K +32K	28K	–	7	8	✓	120	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				–		832K	32K					120																						
	MB96F379RW				✓								118																						
MB96380	MB96384RS	56	LQFP-120	3.0 to 5.5	–	MASK	128K	6K	–	7	8	✓	96	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				–		160K	8K					96																						
	MB96385RW				✓								94																						
	MB96F385RS	40			–	FLASH	160K	6K					96																						
	MB96F385RW				✓								94																						
	MB96F386RS	56			–		288K	16K					96																	2					
	MB96F386RW				✓								94																						
	MB96F387RS				–		416K						96																						
	MB96F387RW				✓								94																						
	MB96F388HS	40			–		544K +32K	28K					96																						
	MB96F388HW				✓								94																						
	MB96F389RS				–		544K +288K	32K					96																						
	MB96F389RW				✓								94																						
MB96390	MB96393RS	40	LQFP-100	3.0 to 5.5	–	MASK	96K	5K	–	–	8	–	76	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
	MB96393RW				✓								74																						
	MB96395RS				–		160K	8K					76																						
	MB96395RW				✓								74																						
	MB96F395RS				–	FLASH	160K						76																						
	MB96F395RW				✓								74																						

** In development; **Planning*

F²MC-16FX – 16bit Microcontrollers

Series Name	Product Name	Maximum Internal Clock Frequency [MHz]	Package [pin]	Operating Voltage: VCC [V]	Sub Clock	Memory Type	ROM [byte]	RAM [byte]	Cache [Kbyte]	DMAC [ch]	Ext. Interrupt [ch]	External Bus	Maximum I/O port [ch]	10bit AD Converter [ch.(unit)]	12bit AD Converter [ch.(unit)]	DA Converter [bit x ch]	Timer									Serial				Communication			LCD Controller [seg x com]	Three-phase Inverter	Note	Evaluation Device
																	Output Compare [ch]	Free-Run Timer [ch]	Input Capture [ch]	Reload Timer [ch]	PWM Timer [ch]	PWC Timer [ch]	PPG Timer [ch]	Up/Down Counter [ch]	Other timers [ch]	I²C [ch]	UART/SI [ch]	SIO [ch]	LIN/UART/SIO [ch]	CAN [ch]	USB-Host [ch]	USB-Function [ch]				
AUTOMOTIVE																																				
MB96610	MB96F612A MB96F612R MB96F613A MB96F613R MB96F615A MB96F615R	32	LQFP-48	2.7 to 5.5	✓	Dual Op. Flash	32.5K +32K 64.5K +32K 128.5K +32K	4K 10K	–	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	– 1 – 1 – 1	–	–	–	–	Option without CAN	On-chip Debug
MB96620	MB96F622A MB96F622R MB96F623A MB96F623R MB96F625A MB96F625R	32	LQFP-64	2.7 to 5.5	✓	Dual Op. Flash	32.5K +32K 64.5K +32K 128.5K +32K	4K 10K	–	2	13	–	52 (Single clock) 50 (Dual clock)	21(1)	–	–	6	4	6 +2 (Dedicated for LIN)	2 +1 (Dedicated for PPG)	-	-	8bit x 16 16bit x 8	-	QPRC x 2	1	–	–	3	– 1 - 1 – 1	–	–	–	–	Option without CAN	On-chip Debug
MB96630	MB96F633A MB96F633R MB96F635A MB96F635R MB96F636R MB96F637R	32	LQFP-80	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K 128.5K +32K 256.5K +32K 384.5K +32K	10K 16K 24K 28K	–	4	15	–	64 (Single clock) 66 (Dual clock)	21(1)	–	–	7	3	6 +1 (Dedicated for LIN)	3	–	–	8bit x 20 16bit x 15	-	QPRC x 2	2	–	–	5	– 1 – 1	–	–	–	–	Option without CAN	On-chip Debug
MB96640	MB96F643A MB96F643R MB96F645A MB96F645R MB96F646R MB96F647R	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K 128.5K +32K 256.5K +32K 384.5K +32K	10K 16K 24K 28K	–	4	16	–	81 (Single clock) 79 (Dual clock)	24(1)	–	–	7	3	6 +1 (Dedicated for LIN)	5	–	–	8bit x 24 16bit x 16	-	QPRC x 2	2	–	–	6	– 1 – 1	–	–	–	–	Option without CAN	On-chip Debug
MB96650	MB96F653A MB96F653R MB96F655A MB96F655R MB96F656R MB96F657R	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K 128.5K +32K 256.5K +32K 384.5K +32K	10K 16K 24K 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	- 1 - 1	-	-	-	-	Option without CAN	On-chip Debug
MB96670	MB96F673A MB96F673R MB96F675A MB96F675R	32	LQFP-64	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K 128.5K +32K	4K	-	2	7	-	50 (Single clock) 48 (Dual clock)	12(1)	-	-	-	2	4	3	-	-	8bit x 8 16bit x 4	-	-	1	-	-	2	- 1 - 1	-	-	24 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
MB96680	MB96F683A MB96F683R MB96F685A MB96F685R	32	LQFP-80	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K 128.5K +32K	4K	-	2	7	-	65 (Single clock) 63 (Dual clock)	14(1)	-	-	-	2	4	3	-	-	8bit x 8 16bit x 4	-	-	1	-	-	2	- 1 - 1	-	-	32 x 4	-	SMC x 2ch Sound generator Option without CAN	On-chip Debug
MB96690	MB96F693A MB96F693R MB96F695A MB96F695R MB96F696R	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	64.5K +32K 128.5K +32K 256.5K +32K	8K 16K	-	4	16	-	79 (Single clock) 77 (Dual clock)	27(1)	-	-	4	2	6	5	-	-	8bit x 14 16bit x 10	-	-	1	-	-	5	- 1 - 1	-	-	36 x 4	-	SMC x 4ch Sound generator x 2ch Option without CAN	On-chip Debug
MB966A0	MB96F6A5A MB96F6A5R MB96F6A6R	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	128.5K +32K 256.5K +32K	8K 16K	-	4	16	-	97 (Single clock) 95 (Dual clock)	32(1)	-	-	4	2	8	5	-	-	8bit x 24 16bit x 12	-	-	1	-	-	5	- 1	-	-	44 x 4	-	SMC x 5ch Sound generator x 2ch Option without CAN	On-chip Debug
MB966B0	MB96F6B5A MB96F6B5R MB96F6B6R	32	LQFP-100	2.7 to 5.5	✓	Dual Op. Flash	128.5K +32K 256.5K +32K	8K 16K	-	4	16	-	79 (Single clock) 77 (Dual clock)	27(1)	-	-	4	2	6	5	-	-	8bit x 16 16bit x 12	-	QPRC x 2	1	-	-	5	- 1	-	-	36 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug
MB966C0	MB96F6C5A MB96F6C5R MB96F6C6R	32	LQFP-120	2.7 to 5.5	✓	Dual Op. Flash	128.5K +32K 256.5K +32K	8K 16K	-	4	16	-	99 (Single clock) 97 (Dual clock)	32(1)	-	-	4	2	8	5	-	-	8bit x 24 16bit x 12	-	QPRC x 2	1	-	-	5	- 1	-	-	44 x 4	-	Sound generator x 2ch Option without CAN	On-chip Debug

** In development; **Planning*