

Fujitsu Significantly Updates FM3 Family of 32-bit Microcontrollers for a Total of 570 Products

Supports a broad range of applications with the addition of high-capacity memory products and low pin count products

Yokohama, Japan, April 18, 2013 - Fujitsu Semiconductor Limited today announced the launch of an upgraded lineup of its FM3 Family of 32-bit general-purpose RISC microcontrollers based on the ARM® Cortex™-M3 processor core. In total, Fujitsu Semiconductor is releasing 38 new products, including the MB9BF529TPMC, which is equipped with high-capacity memory, and the MB9BF121JPMC, which features low pin count packaging. Sample quantities of the new products will incrementally be made available starting May 10, 2013. The new lineup is optimal for system control in household appliances, office automation equipment, and industrial equipment.

With the addition of these new products, Fujitsu Semiconductor's top class FM3 Family lineup of ARM Cortex-M3 processor core-based microcontrollers will total 570 products.

Since first announcing the FM3 family of 32-bit general-purpose RISC microcontrollers based on the ARM Cortex-M3 core in 2010, Fujitsu Semiconductor has subsequently developed a rich product lineup supporting a broad range of applications.

The Basic Group, which achieves an ideal balance between performance and cost, will be enhanced with the 38 new products including the high-capacity MB9B520T/420T/320T/120T Series, which features up to 1.5MB of flash memory; the low-pin MB9B120J Series, which is available in 32-pin packaging; and the low-power MB9A420L/120L Series, which supports CAN communications. The new lineup is optimal for system control in household appliances, office automation equipment, and industrial equipment.

Going forward, Fujitsu Semiconductor plans to incrementally augment its microcontroller portfolio, including its FM4 Family of Cortex-M4 core-based processors and the FM0+ Family of Cortex-M0+ core-based processors, all while delivering its enhanced product lineup to the global marketplace.

Product Overview

MB9B520T/420T/320T/120T Series featuring high-capacity memory

The MB9B520T/420T/320T/120T Series features a rich assortment of peripheral functions that the FM3 Family is renowned for, including CAN, USB 2.0 Host/Function, and multifunction serial (UART/CSI0/LIN/I2C) and other serial communications features, in addition to a multifunction timer that is capable of inverter control. The series, which is available in variations featuring internal flash memory ranging up to 1.5MB—the highest capacity option in the FM3 Family—is available in 144-pin to 192-pin packages. The series is an optimal choice for inverter control applications in household appliances, such as air conditioners, and in the various motors used in office automation equipment, including printers and copiers, as well as for man-machine interface control in AV equipment. Equipping the high-capacity memory makes it possible to support multiple languages in the display components of AV and office automation equipment.

MB9B120J Series featuring low pin count packaging

The new MB9B120J Series is the first product series in the FM3 Family lineup to feature 32-pin packaging. The series is available at operating speeds of up to 72 MHz, which is the highest for the Basic Group of products. It also comes equipped with a multifunction timer capable of inverter control and a high-speed, high-sensitivity 12-bit AD converter, making it an optimal choice for applications in which low-pin inverter control is desirable, such as general-use inverters and motors for low-end industrial equipment, as well as for refrigerators, washing machines, induction heating cookware, and other household appliances. It is also optimal for devices that require a one-to-one motor to microcontroller system architecture.

MB9A420L/120L Series featuring CAN communications and energy-efficient technology

In addition to leveraging the energy-efficient technology from the FM3 Family's Low Power Group of products, the MB9A420L/120L Series features CAN communications functionality, a multifunction timer that is capable of inverter control, and a 10-bit DA converter. The series lineup is available in 48-pin to 64-pin packages. It is an optimal option for use in equipment that requires push button tone control, such as elevators, building management applications, and electronic switchboards.

Sample Price and Release Schedule

Basic Group

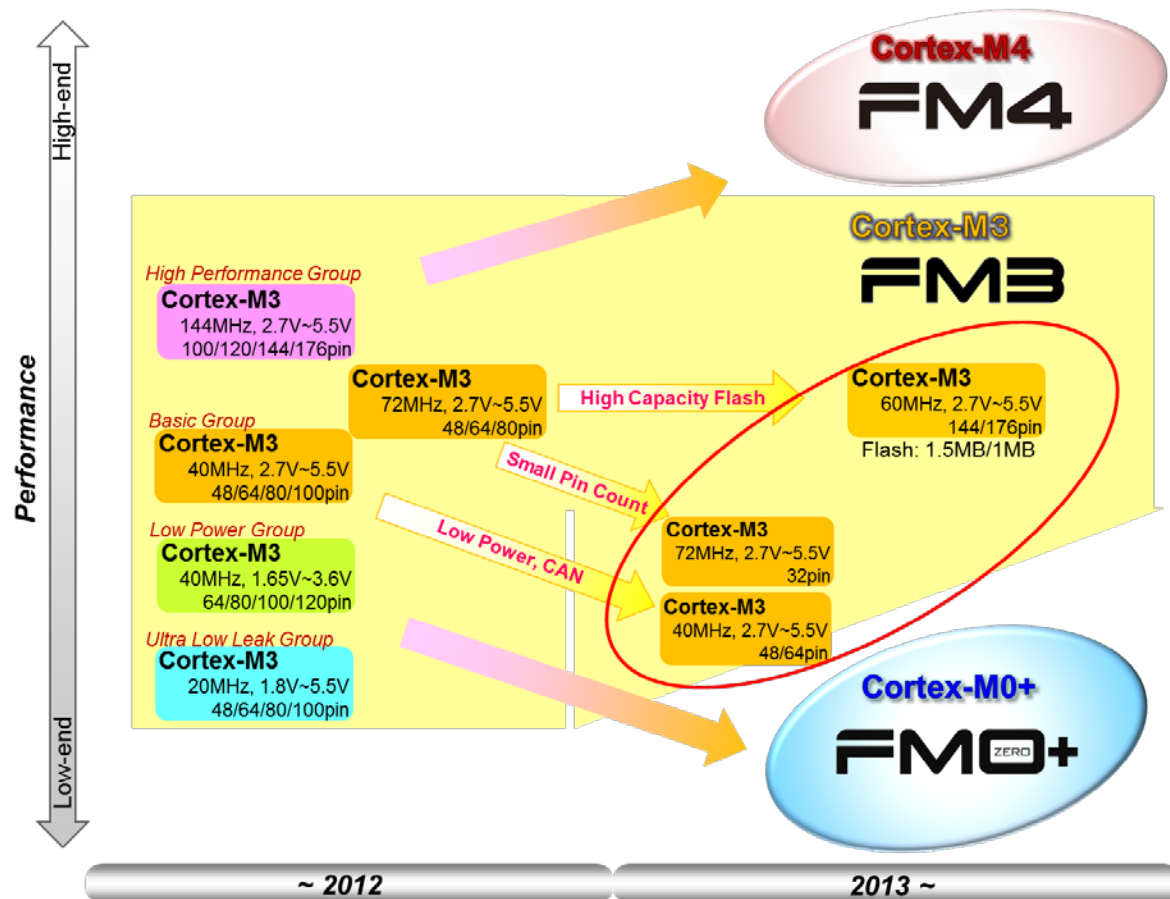
Product Name	Price (With TAX)	Delivery
MB9BF529TPMC	JPY 780 *	August 10, 2013
MB9BF121JPMC	JPY 250 *	May 10, 2013
MB9AF421LPMC	JPY 300 *	July 1, 2013

* Unit price at 1,000 pieces in order

Sales Target

500,000 pieces per month when in mass-production. (Total of 38 products)

Product Roadmap



For More Information:

<http://jp.fujitsu.com/group/fsl/en/> (Fujitsu Semiconductor)

<http://www.fujitsu.com/global/services/microelectronics/product/micom/roadmap/industrial/fm3/> (FM3 Family)

About Fujitsu Semiconductor

Fujitsu Semiconductor Limited designs, manufactures, and sells semiconductors, providing highly reliable, optimal solutions and support to meet the varying needs of its customers. Products and services include microcontrollers, ASICs, ASSPs, and power management ICs, with wide-ranging expertise focusing on mobile, ecological, automotive, imaging, security, and high-performance applications. Fujitsu Semiconductor also drives power efficiency and environmental initiatives. Headquartered in Yokohama, Fujitsu Semiconductor Limited (formerly named Fujitsu Microelectronics Limited) was established as a subsidiary of Fujitsu Limited on March 21, 2008. Through its global sales and development network, with sites in Japan and throughout Asia, Europe, and the Americas, Fujitsu Semiconductor offers semiconductor solutions to the global marketplace.

For more information, please see: <http://jp.fujitsu.com/fsl/en/>

Press Contacts

Fujitsu Semiconductor Limited

Public Relations Department

Inquiry: <https://www-s.fujitsu.com/jp/group/fsl/en/release/inquiry.html>

Company and product names mentioned herein are trademarks or registered trademarks of their respective companies. Information provided in this press release is accurate at time of publication and subject to change without advance notice.

MB9B520T/420T/320T/120T Series (Basic Group)

1. High Capacity Flash Memory

Maximum flash memory capacity of the existing FM3 family products was 1 MB. The new series features greater capacity up to 1.5 MB, and makes it possible to support multiple languages in the display components of AV and office automation equipment, or other devices that need to handle more parameters and data.

2. Full array of communications functions

While retaining the communications functionality of the High Performance Group, the new products are equipped with a diverse range of macros used for serial communications, including CAN, a USB 2.0 Host/Function controller, and multifunction serial interfaces (UART/CSIO/LIN/I²C). The series can be deployed in a wide range of applications, such as industrial systems equipment; energy management systems such as BEMS/HEMS; and other network-enabled devices such as office automation equipment.

3. HDMI-CEC macros for user interfaces in AV devices and other equipment

The series is equipped with transmission/receiver functionalities for HDMI-CEC, a standard interface among AV devices, and remote control receiver functions, both of which are available up to two channels.

Lineup: MB9B520T/420T/320T/120T Series (24 products)

Operation Frequency (Max.)	Package	Size [mm] (X*Y)	Peripheral		Flash / RAM density	
			USB2.0 Host/Function	CAN	1MB+64KB / 160KB	1.5MB+64KB / 192KB
60MHz	LQFP-176 0.5mm pitch	24*24	1	1	MB9BF528TPMC	MB9BF529TPMC
			-	1	MB9BF428TPMC	MB9BF429TPMC
			1	-	MB9BF328TPMC	MB9BF329TPMC
			-	-	MB9BF128TPMC	MB9BF129TPMC
	BGA-192 0.8mm pitch	12*12	1	1	MB9BF528TBGL	MB9BF529TBGL
			-	1	MB9BF428TBGL	MB9BF429TBGL
			1	-	MB9BF328TBGL	MB9BF329TBGL
			-	-	MB9BF128TBGL	MB9BF129TBGL
	LQFP-144 0.5mm pitch	20*20	1	1	MB9BF528SPMC	MB9BF529SPMC
			-	1	MB9BF428SPMC	MB9BF429SPMC
			1	-	MB9BF328SPMC	MB9BF329SPMC
			-	-	MB9BF128SPMC	MB9BF129SPMC

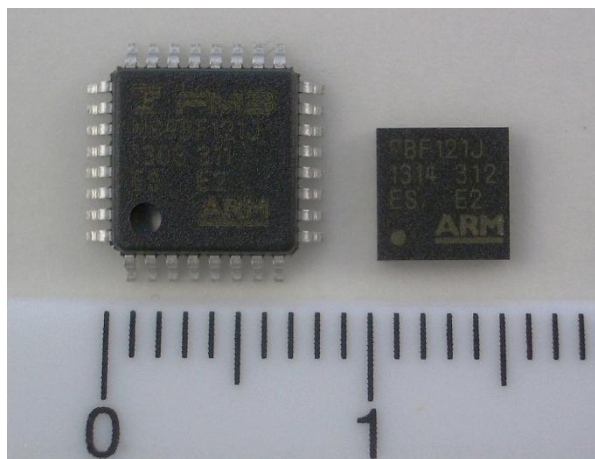
MB9B120J Series (Basic Group)

1. Peripheral functionality enabling support for high-precision motor control

In addition to preserving the peripheral functionality of the FR family of microcontrollers, which boasts a solid reputation in motor control performance, Fujitsu Semiconductor has enhanced the series with an advanced selection of peripheral functions to provide new support for high-precision motor control. In particular, the series' high-precision, high speed 12-bit A/D converter (capable of +/- 2.5LSB 1.0μs conversion) demonstrates exceptional performance in applications such as highly-efficient inverters used in household appliances and industrial systems. With 1 unit and up to 8 channels of this A/D converter, the series is able to perform fine-grained motor control with improved motor positioning accuracy. Furthermore, the built-in quad counter (motor rotation-phase detection counter) can handle rotation-phase detection—which previously was processed at the software level—at the hardware level, thereby reducing load on the CPU. The use of this product can enable energy-efficient inverter systems.

2. Small size package

The series comes with 5mm x 5mm QFN 32-pin package, the smallest for the FM3 family of products. It provides optimal solutions for applications that require high precision motor control and small mounted area at the same time, such as equipment using brushless motors.



MB9B120J Series

Lineup: MB9B120J Series (2 products)

Operation Frequency (Max.)	Package	Size [mm] (X*Y)	Flash / RAM density
			64KB / 8KB
72MHz	LQFP-32 0.8mm pitch	7*7	MB9BF121JPMC
	QFN-32 0.5mm pitch	5*5	MB9BF121JWQN

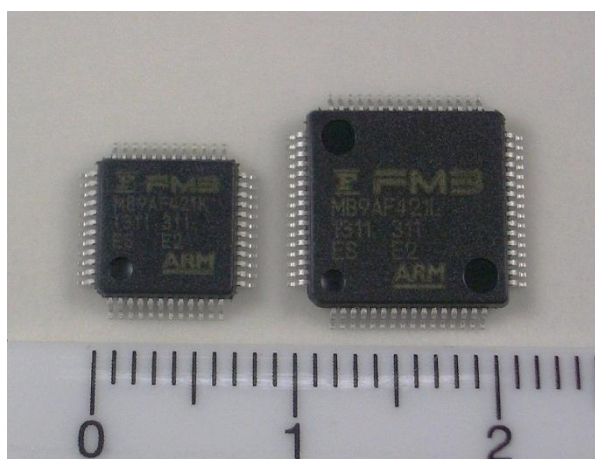
MB9A420L/120L Series (Basic Group)

1. Wide range of operating voltages and low power consumption

This series can run on operating voltages ranging from 2.7V to 5.5V. It can be applied for various industrial equipment and home appliances, which include both 3V and 5V supply voltage systems. It has also achieved low power consumption; it runs almost at half the operating current compared with the High Performance Group products of the FM3 family.

2. Rich array of peripheral functions

The series features CAN communications functionality, a multifunction timer that is capable of inverter control, and a 10-bit DA converter. It is an optimal option for use in equipment that requires push button tone control, such as elevators, building management applications, and electronic switchboards.



MB9A420L Series

Lineup: MB9A420L/120L Series (12 products)

Operation Frequency (Max.)	Package	Size [mm] (X*Y)	Peripheral	Flash / RAM density
			CAN	64KB / 4KB
40MHz	LQFP-64 0.5mm pitch	10*10	1	MB9AF421LPMC1
			-	MB9AF121LPMC1
	LQFP-64 0.65mm pitch	12*12	1	MB9AF421LPMC
			-	MB9AF121LPMC
	QFN-64 0.5mm pitch	9*9	1	MB9AF421LWQN
			-	MB9AF121LWQN
	LQFP-52 0.65mm pitch	10*10	1	MB9AF421KPMC1
			-	MB9AF121KPMC1
	LQFP-48 0.5mm pitch	7*7	1	MB9AF421KPMC
			-	MB9AF121KPMC
	QFN-48 0.5mm pitch	7*7	1	MB9AF421KWQN
			-	MB9AF121KWQN