Spansion® Analog and Microcontroller Products

The following document contains information on Spansion analog and microcontroller products. Although the document is marked with the name “Fujitsu”, the company that originally developed the specification, Spansion will continue to offer these products to new and existing customers.

Continuity of Specifications

There is no change to this document as a result of offering the device as a Spansion product. Any changes that have been made are the result of normal document improvements and are noted in the document revision summary, where supported. Future routine revisions will occur when appropriate, and changes will be noted in a revision summary.

Continuity of Ordering Part Numbers

Spansion continues to support existing part numbers beginning with “MB”. To order these products, please use only the Ordering Part Numbers listed in this document.

For More Information

Please contact your local sales office for additional information about Spansion memory, analog, and microcontroller products and solutions.

NP706-00004-1v0-E

32-bit Microcontrollers
FM3 Family MB9B100 Series

MB9B100 series are highly integrated 32-bit microcontrollers that target for high-performance and cost-sensitive embedded control applications.
MB9B100 series are based on the ARM Cortex-M3 Processor and on-chip Flash memory and SRAM, and peripheral functions, including Motor Control timers, ADCs and Communication interfaces.

■FEATURES

- **ARM Cortex-M3 CPU**
  Processor version : r2p0
- **Clock**
  Maximum clock frequency : 80MHz
- **Base Timer** : 8 chennels
- **Multi-function Timer** : 2 units
  16-bit free-run timer ×3channels/unit
  Input capture ×4channels/unit
  Output compare ×6channels/unit
  A/D activating compare ×3channels/unit
  Waveform generator 3channels/unit
  16-bit PPG timer ×3channels/unit
- **QPRC** : 2 channels
- **Dual timer** : 1 unit
- **Watch dog timer** : 2 channels
- **Multi-function Serial Interface** : 8 channels
  Selectable from UART/CSIO/LIN/I²C
- **External bus interface**
- **DMA Controller** : 8 channels
- **External interrupt Controller Unit**
  - Up to 16 external vectors
  - Include one non-maskable interrupt(NMI)
- **12-bit A/D converter** : 16 channels
- **Low power consumption mode**
  Sleep mode
  Timer mode
  Stop mode
- **I/O port**
  MB9BF104N/F105N/F106N : 80(Max.)
  MB9BF104R/F105R/F106R : 100(Max.)
- **On-chip debug**
- **Low-voltage detection reset circuit**
- **Clock supervisor counter**
- **Power supply** : 2.7～5.5V
  *The range of the power supply voltage is different according to the operating frequency and the operating temperature.

■PRODUCT LINEUP

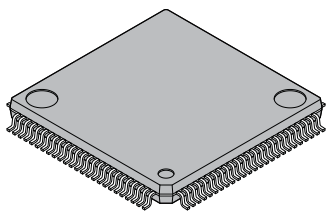
Parameter \ Part number	MB9BF 104N	MB9BF 105N	MB9BF 106N	MB9BF 104R	MB9BF 105R	MB9BF 106R
Type	Flash memory product					
ROM (Byte)	256K	384K	512K	256K	384K	512K
RAM (Byte)	32K	48K	64K	32K	48K	64K
Package	Plastic・LQFP, 100-pins (FPT-100P-M20*/M23)			Plastic・LQFP, 120-pins (FPT-120P-M21)		
	Plastic・BGA, 112-pins (BGA-112P-M04)					

*: ES product only

■ORDERING INFORMATION

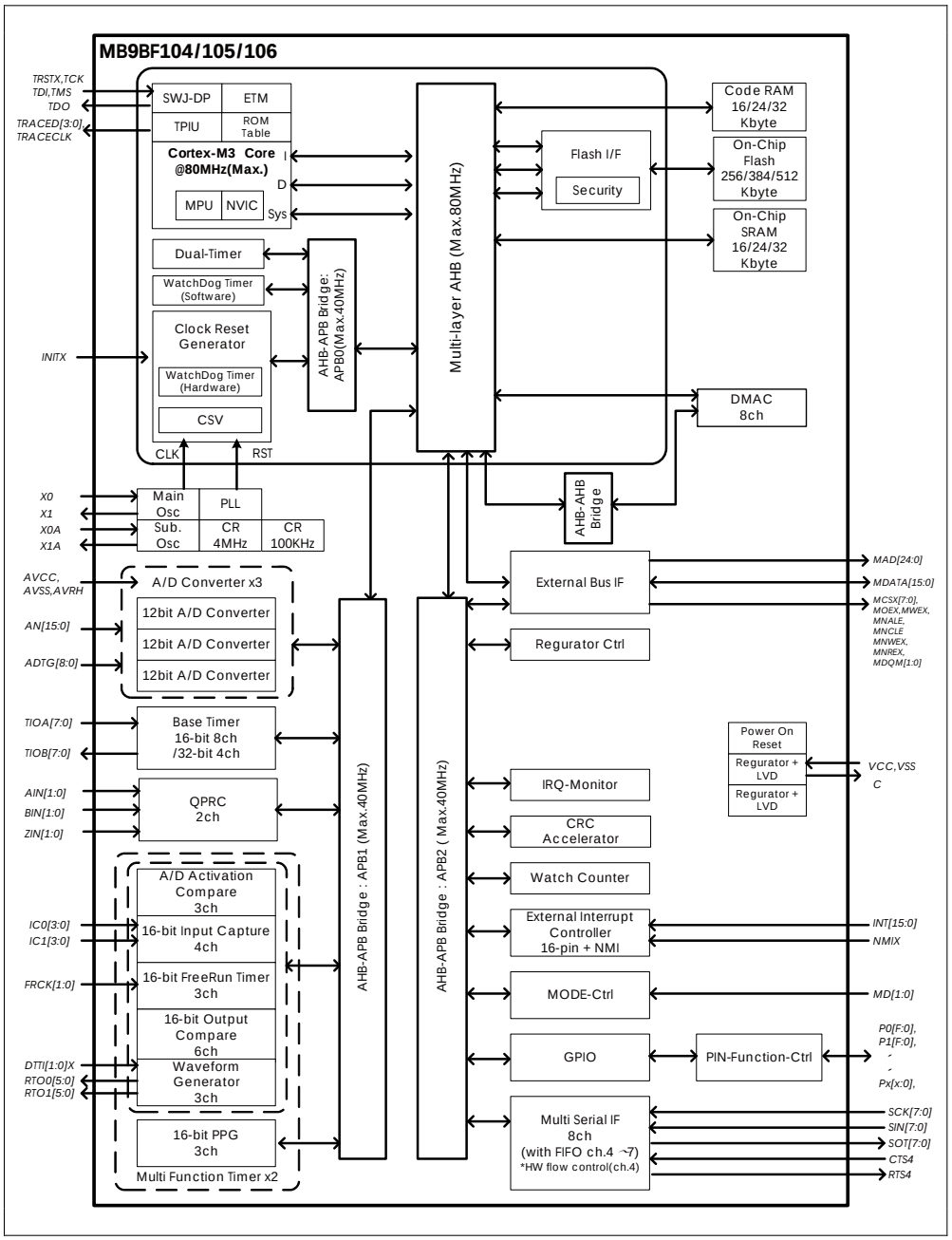
Part number	Package
MB9BF104NPMC	Plastic・LQFP(0.5mm pitch), 100-pin (FPT-100P-M20*/M23)
MB9BF105NPMC	
MB9BF106NPMC	
MB9BF104RPMC	Plastic・LQFP(0.5mm pitch), 120-pin (FPT-120P-M21)
MB9BF105RPMC	
MB9BF106RPMC	
MB9BF104NBGL	Plastic・PFBGA(0.8mm pitch), 112-pin (BGA-112P-M04)
MB9BF105NBGL	
MB9BF106NBGL	

■PACKAGE EXAMPLE OF REFERENCE



Plastic ・ LQFP、100-pins
(FPT-100P-M23)

■BLOCK DIAGRAM



■STARTER KIT

A starter kit for FM3 Family manufactured by IAR Systems and KEIL will be on market.
A high performance board (made by IAR Systems) or a simple board (made by KEIL) can be selected by the usage.

- **IAR Systems**

By using IAR Systems made starter kit, evaluation by high performance board is possible.
(Expected release date: April 2011)

- **KEIL**

By using KEIL made starter kit, evaluation by simple board is possible.
(Expected release date: April 2011)