

8-bit Microcontrollers MB95310L Series



MB95310L is a series of general-purpose, single-chip microcontrollers. In addition to a compact instruction set, the microcontrollers of this series contain a variety of peripheral resources. It is possible to use it for the equipment that needs the LCD control like healthcare, general home appliances and factory automation widely.

■ FEATURES

- **F²MC-8FX CPU**
 - Instruction set optimized for controllers
- **Clock**
 - Maximum clock frequency : 16.25MHz
- **Timer**
 - 8/16-bit composite timer : 2 channels
 - 8/16-bit PPG timer : 2 channels
 - 16-bit reload timer : 1 channel
 - Time-base timer : 1 channel
 - Watch prescaler : 1 channel
- **UART/SIO** : 2 channels
- **I²C** : 1 channel
- **LCD controller (LCDC)**
 - 40 SEG×4 COM : 160 pixels can be displayed
 - Brinking function
 - Built-in division resistance for LCD drive
- **External interrupt** : 8 channels
 - Interrupt by edge detection
 - Can be used to wake up the device from different low power consumption (standby) modes
- **8/10-bit A/D converter** : 4 channels
- **Low power consumption (standby) mode**
 - Stop mode
 - Sleep mode
 - Watch mode
 - Time-base timer mode
- **I/O port** : 71 (Max)
- **On-chip debug**
 - 1-wire serial control
 - Serial writing supported (asynchronous mode)
- **Low-voltage detection reset circuit**
- **Clock supervisor counter**
- **Dual operation Flash memory**
- **Flash memory security function**
- **Power supply** : 1.8~3.6V
 - *The range of the power supply voltage is different according to the operating frequency and the operating temperature.

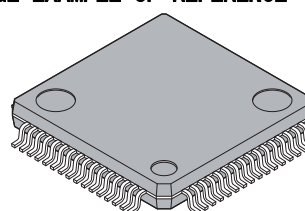
■ PRODUCT LINEUP

Part number Parameter	MB95F314L	MB95F316L	MB95F318L	MB95F314E	MB95F316E	MB95F318E
Type	Flash memory product					
ROM (Byte)	20K	36K	60K	20K	36K	60K
RAM (Byte)	496	1008	2032	496	1008	2032
Low-voltage detection reset	No			Yes		

■ ORDERING INFORMATION

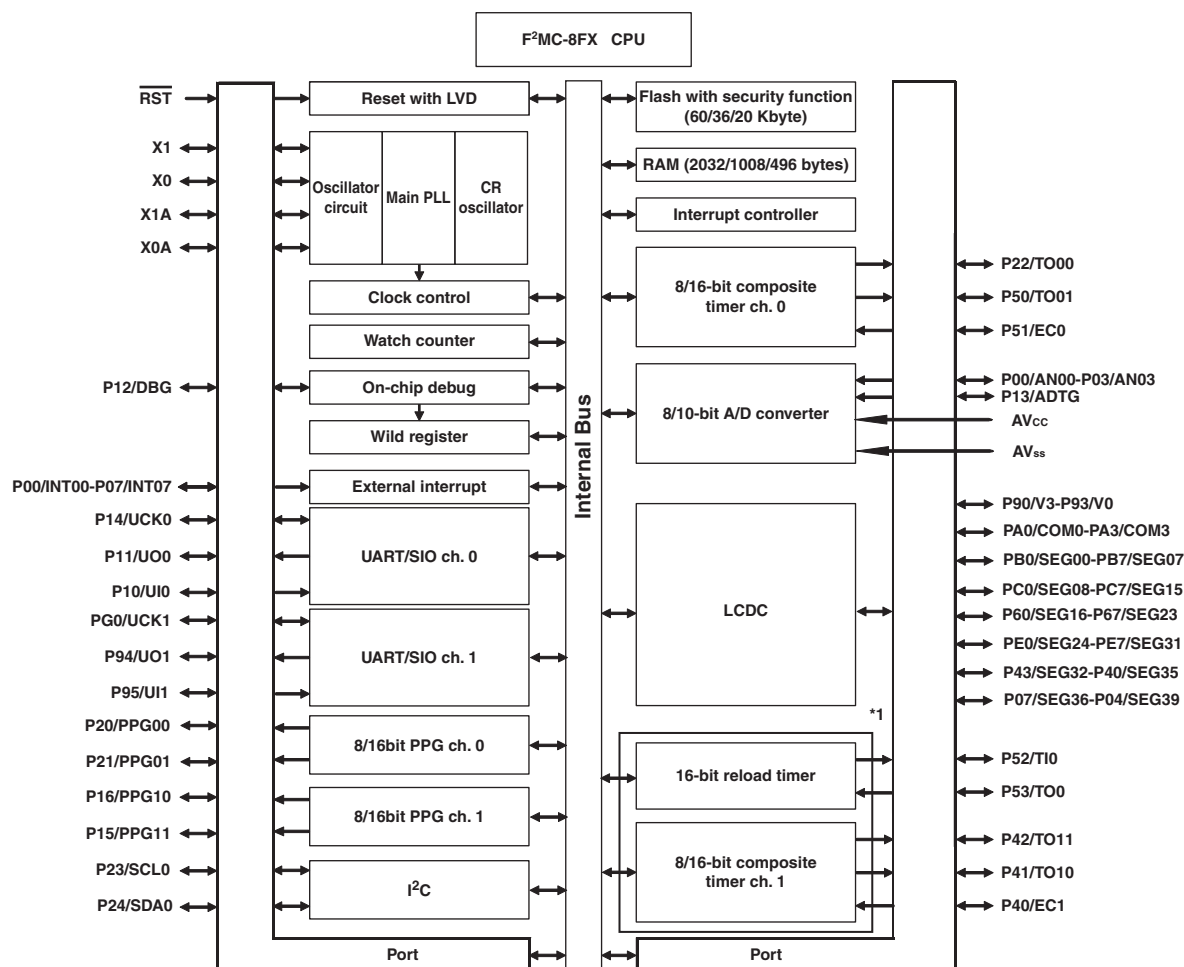
Product name	Package	Remarks
MB95F314LPMC MB95F314EPMC MB95F316LPMC MB95F316EPMC MB95F318LPMC MB95F318EPMC	Plastic • LQFP, 80-pins (FPT-80P-M37) 12.0mm□, 0.50mm pitch	-

■ PACKAGE EXAMPLE OF REFERENCE



Plastic • LQFP, 80-pins
(FPT-80P-M37)

■ BLOCK DIAGRAM



*1: 8/16-bit composite timer ch. 1 and 16-bit reload timer ch. 0 can be used as an event counter when the event counter operating mode is enabled.

■ SUPPORT TOOL

• HARDWARE

Name	Part Number	Remarks
BGM adapter	MB2146-08-E	F²MC-8FX MB95200 series in common
PC cable	USB cable	Attached to MB2146-08-E, 1.0m
Evaluation board	MB2146-450A-E	-

• SOFTWARE

Software	Part Number	Operating System
SOFTUNE V3 Professional Pack	SP36503Z008-P01	Windows2000/XP/Vista

• FLASH MICROCONTROLLER PROGRAMMER

Name	Remarks
Parallel programmer	Made by Flash Support Group, etc. (Under contemplation)
Serial on board programmer	FUJITSU FLASH MCU programmer