

# 8-bit Microcontrollers MB95350L Series



The MB95350L 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 for example 2 channels I<sup>2</sup>C. This can be used for the Security sensors, Toys, Heater detector applications which need more communication ports application etc.

## FEATURES

- **F<sup>2</sup>MC-8FX CPU**  
Instruction set optimized for controllers
- **Clock**  
Maximum clock frequency : 16.25MHz
- **Timer**  
8/16-bit composite timer : 2 channels  
Time-base timer : 1 channels
- **UART/SIO**  
1 channel (alternative selection between I<sup>2</sup>C and UART/SIO)
- **I<sup>2</sup>C**  
1 channel  
[+ 1 channel (alternative selection between I<sup>2</sup>C and UART/SIO)]
- **LIN/UART**: 1 channel
- **External interrupt** : 6 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** : 6 channels
- **Low power consumption (standby) modes**  
Stop mode  
Sleep mode  
Watch mode  
Time-base timer mode
- **I/O port**  
MB95F352E/F353E/F354E : 22  
MB95F352L/F353L/F354L : 21
- **On-chip debug**
  - 1-wire serial control
  - Serial writing supported (asynchronous mode)
- **Hardware/software watchdog timer**
- **Low-voltage detection reset circuit**  
MB95F352E/F353E/F354E
- **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.

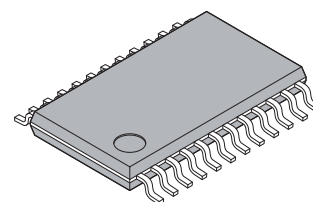
## PRODUCT LINEUP

Part number Parameter	MB95F 352E	MB95F 353E	MB95F 354E	MB95F 282L	MB95F 283L	MB95F 284L
Type	Flash memory product					
ROM (Byte)	8K	12K	20K	8K	12K	20K
RAM (Byte)	240	496		240	496	
Low-voltage detection reset	Yes			No		

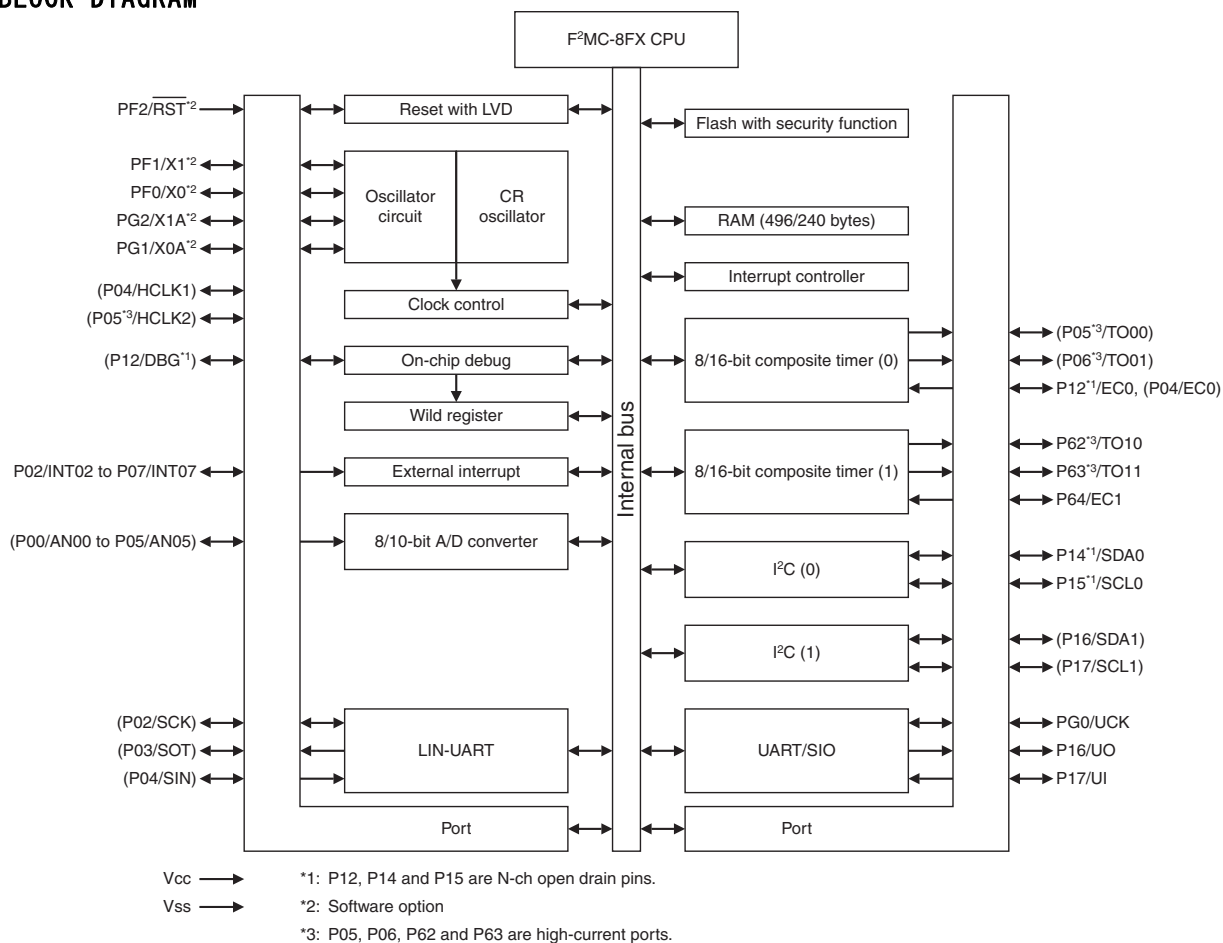
## ORDERING INFORMATION

Product name	Package	Remarks
MB95F352EPF MB95F352LPF MB95F353EPF MB95F353LPF MB95F354EPF MB95F354LPF	Plastic · SOP, 24-pins (LCC-24P-M34) 7.50mm × 15.34mm, 1.27mm pitch	-
MB95F352EPFT MB95F352LPFT MB95F353EPFT MB95F353LPFT MB95F354EPFT MB95F354LPFT	Plastic · TSSOP, 24-pins (FPT-24P-M10) 4.40mm × 7.80mm, 0.65mm pitch	-
MB95F352EWQN MB95F352LWQN MB95F353EWQN MB95F353LWQN MB95F354EWQN MB95F354LWQN	Plastic · QFN, 32-pins (LCC-32P-M19) 5.00mm □, 0.50mm pitch	-

## PACKAGE EXAMPLE OF REFERENCE



Plastic · TSSOP, 24-pins  
(FPT-24P-M10)

**■ BLOCK DIAGRAM**


Note: Pins in parentheses indicate that functions of those pins are shared among different resources.

**■ 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	MB2146-460-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