

32-bit Microcontrollers FM3 Family MB9B120T Series



MB9B120T series are highly integrated 32-bit microcontrollers dedicated for embedded controllers with low power consumption and competitive cost. MB9B120T series are based on the ARM Cortex-M3 Processor with Flash memory and SRAM, and has peripheral functions such as timers, ADCs, DACs and Communication interfaces.

FEATURES

- **32bit ARM Cortex-M3 Core** : Processor version : r2p1
- **Clock** : Maximum clock frequency : 60MHz
- **Base Timer** : 16 channels(Max.)
- **Multi-function Timer** : 1 unit(Max.)
 - 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**
 - MB9BF128S/129S : 1 channel(Max.)
 - MB9BF128T/129T : 2 channels(Max.)
- **Dual Timer** : 1 unit
- **Watch dog Timer** : 1 channel(SW) + 1 channel(HW)
- **Multi-function Serial Interface** : 16 channels(Max.)
 - Selectable from UART/CSIO/LIN/I²C
- **External Bus Interface**
- **DMA Controller** : 8 channels
- **Real Time Clock** : 1 unit
- **HDMI-CEC/Remote control** : 2 channel(Max.)
- **Watch counter** : 1 unit
- **External Interrupt Controller Unit**
 - Up to 32 external vectors
 - One non-maskable interrupt(NMI)
- **12-bit A/D Converter** : 24 channels(2 units)
- **10-bit D/A Converter** : 2 channels(Max.)
- **CRC Accelerator**
- **Low Power Mode**
 - Sleep mode/Timer mode/RTC mode/Deep standby RTC mode
 - /Stop mode/Deep standby stop mode supported
- **General Purpose I/O port**
 - MB9BF128S/129S : 122(Max.)
 - MB9BF129T/129T : 154(Max.)
- **Built-in CR**
- **Unique ID**
- **Debug**
 - Serial Wire JTAG Debug Port (SWJ-DP)
 - Embedded Trace Macrocells(ETM)
- **Low Voltage Detector**
- **Clock Super Visor**
- **Power Supply** : 2.7V to 5.5V

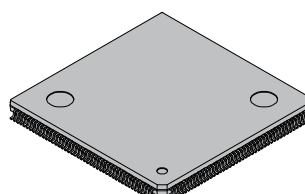
PRODUCT LINEUP

Part number Parameter	MB9BF128S/T	MB9BF129S/T
Flash Main area (Byte)	1M	1.5M
Flash Work area (Byte)	64K	64K
RAM (Byte)	160K	192K

ORDERING INFORMATION

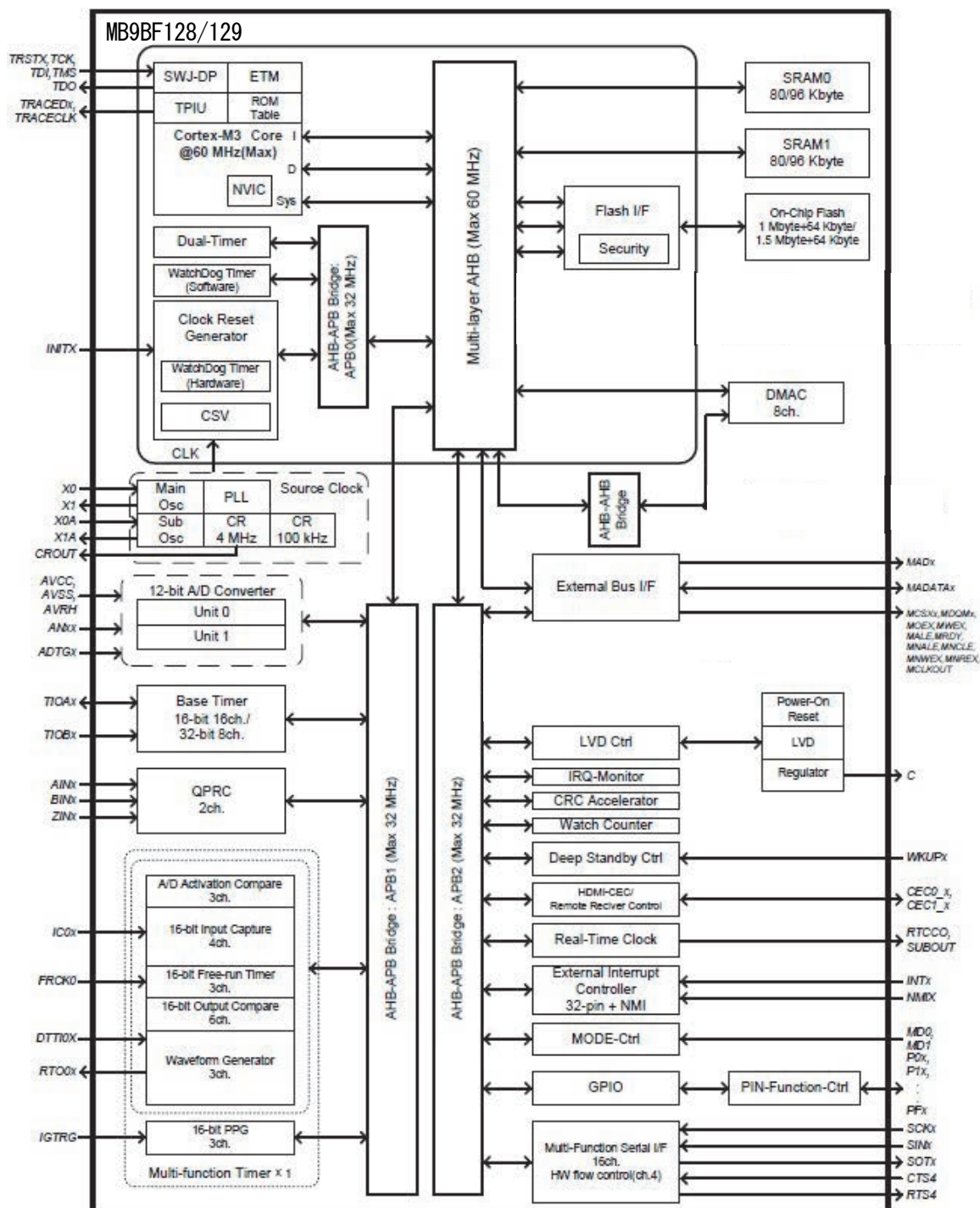
Part number	Package
MB9BF128SPMC	Plastic • LQFP (0.5mm pitch), 144-pin (FPT-144P-M08)
MB9BF129SPMC	
MB9BF128TPMC	Plastic • LQFP (0.5mm pitch), 176-pin (FPT-176P-M07)
MB9BF129TPMC	
MB9BF128TBGL	Plastic • BGA (0.8mm pitch), 192-pin (BGA-192P-M06)
MB9BF129TBGL	

PACKAGE EXAMPLE OF REFERENCE



Plastic • LQFP, 176-pins
(FPT-176P-M07)

■ BLOCK DIAGRAM



■ STARTER KIT

A starter kit for FM3 family is on sale respectively from IAR Systems and KEIL.

• IAR Systems

With IAR Systems starter kit, a high performance board can be used for evaluation.

• KEIL

With KEIL starter kit, a simple board can be used for evaluation.