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Cypress continues to support existing part numbers. To order these products, please use only the Ordering Part Numbers listed in this document.

For More Information

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About Cypress

Cypress (NASDAQ: CY) delivers high-performance, high-quality solutions at the heart of today's most advanced embedded systems, from automotive, industrial and networking platforms to highly interactive consumer and mobile devices. With a broad, differentiated product portfolio that includes NOR flash memories, F-RAM™ and SRAM, Traveo™ microcontrollers, the industry's only PSoC® programmable system-on-chip solutions, analog and PMIC Power Management ICs, CapSense® capacitive touch-sensing controllers, and Wireless BLE Bluetooth® Low-Energy and USB connectivity solutions, Cypress is committed to providing its customers worldwide with consistent innovation, best-in-class support and exceptional system value.

MB9B520T Series

32-bit Microcontroller FM3 Family

Fact Sheet



MB9B520T Series are highly integrated 32-bit microcontrollers dedicated for embedded controllers with low power consumption mode and competitive cost. MB9B520T Series are based on the ARM Cortex-M3 Processor with Flash memory and SRAM, and has peripheral functions such as various timers, ADCs, DACs and Communication Interfaces.

1. 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 x3channels
 - Input capture x4channels
 - Output compare x6channels
 - A/D activation compare x2channels
 - Waveform generator x3channels
 - 16-bit PPG timer x3channels
- **QPRC**
 - MB9BF528S/529S : 1 channel (Max.)
 - MB9BF528T/529T : 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** : 8channels
- **USB2.0(Function/Host)** : 1 channel (Max.)
- **CAN** : 1 channel (Max.)
- **Real-Time Clock** : 1 unit
- **HDMI-CEC/Remote control** : 2 channels (Max.)
- **Watch counter** : 1 unit
- **External Interrupt Controller Unit**
 - Up to 32 external interrupt input pins
 - Include one non-maskable interrupt (NMI)
- **12-bit A/D Converter** : Max. 24 channels (2 units)
- **10-bit D/A Converter** : Max. 2 channels (Max.)
- **CRC Accelerator**
- **Low Power Mode**
 - 6 low power consumption modes supported
 - SLEEP mode/TIMER mode/RTC mode/Deep standby
 - RTC mode/STOP mode/Deep standby STOP mode
- **General Purpose I/O port** : 154 (Max.)
- **Unique ID**
- **Built-in CR**
- **Debug**
 - Serial Wire JTAG Debug Port (SWJ-DP)
 - Embedded Trace Macrocells (ETM)
- **Low Voltage Detector**
- **Clock Super Visor**
- **Power Supply** : 2.7 to 5.5V

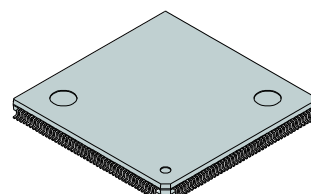
2. PRODUCT LINEUP

Part number Parameter	MB9BF528S/T	MB9BF529S/T
Flash Main area (Byte)	1M	1.5M
Flash Work area (Byte)	64K	64K
RAM (Byte)	160K	192K

3. ORDERING INFORMATION

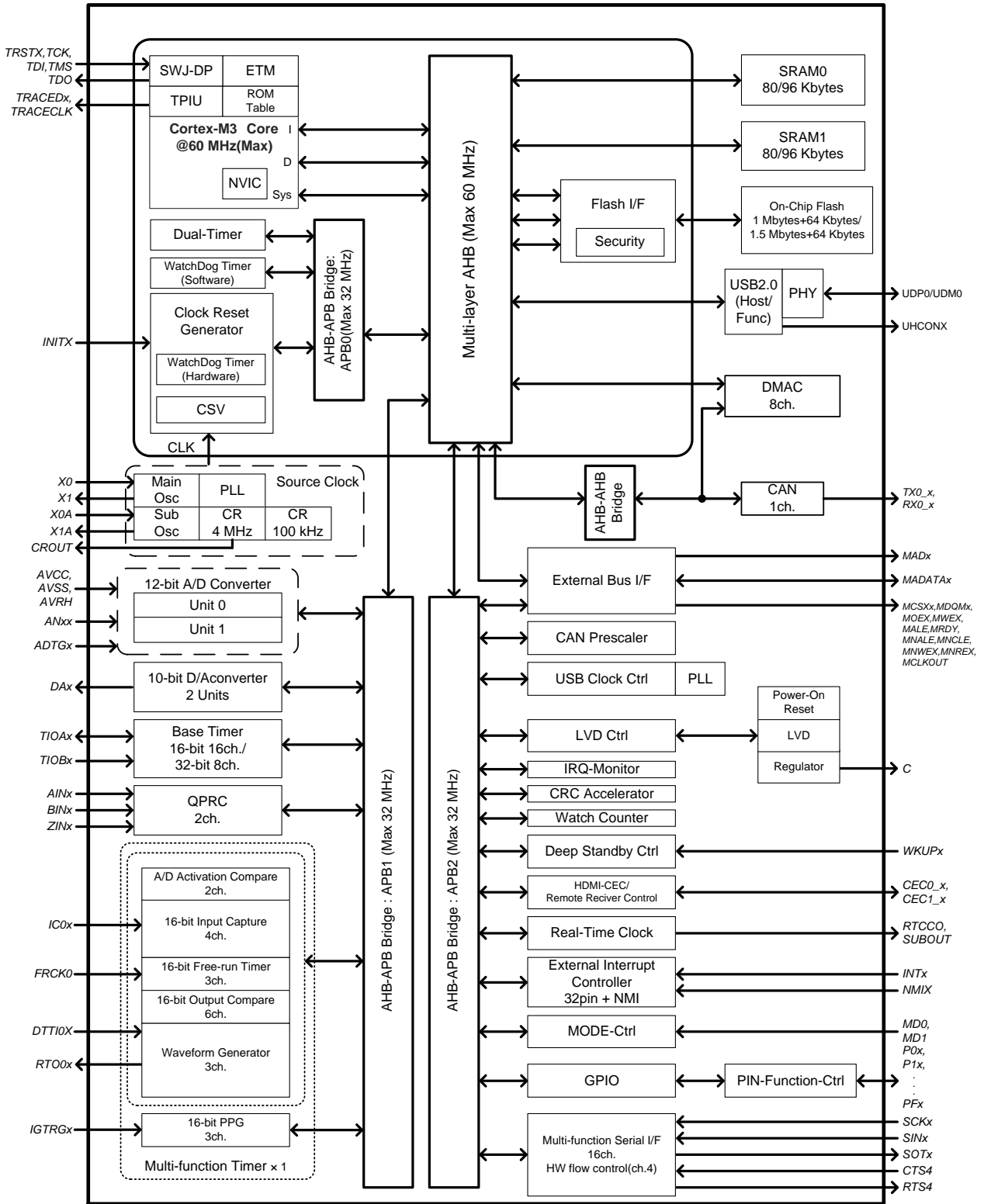
Part number	Package
MB9BF528SPMC	Plastic · LQFP(0.5mm pitch),144-pin (FPT-144P-M08)
MB9BF529SPMC	
MB9BF528TPMC	Plastic · LQFP(0.5mm pitch),176-pin (FPT-176P-M07)
MB9BF529TPMC	
MB9BF528TBGL	Plastic · BGA(0.8mm pitch),192-pin (BGA-192P-M06)
MB9BF529TBGL	

4. PACKAGE EXAMPLE OF REFERENCE



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

5. BLOCK DIAGRAM



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