The following document contains information on Cypress products. Although the document is marked with the name "Spansion", the company that originally developed the specification, Cypress 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 Cypress product. Any changes that have been made are the result of normal document improvements and are noted in the document history page, where supported. Future revisions will occur when appropriate, and changes will be noted in a document history page.

Continuity of Ordering Part Numbers
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
Please contact your local sales office for additional information about Cypress products and solutions.

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.

MB9B320T Series

32-bit Microcontroller
FM3 Family
Fact Sheet

SPANSION®

MB9B320T Series are highly integrated 32-bit microcontrollers dedicated for embedded controllers with low power consumption mode and competitive cost. MB9B320T 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 ×3channels
  − Input capture ×4channels
  − Output compare ×6channels
  − A/D activation compare ×2channels
  − Waveform generator ×3channels
  − 16-bit PPG timer ×3channels
- **QPRC**
  − MB9BF328S/329S : 1 channel (Max.)
  − MB9BF328T/329T : 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.)
- **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	MB9BF328S/T	MB9BF329S/T
Flash Main area (Byte)	1M	1.5M
Flash Work area (Byte)	64K	64K
RAM (Byte)	160K	192K

3. ORDERING INFORMATION

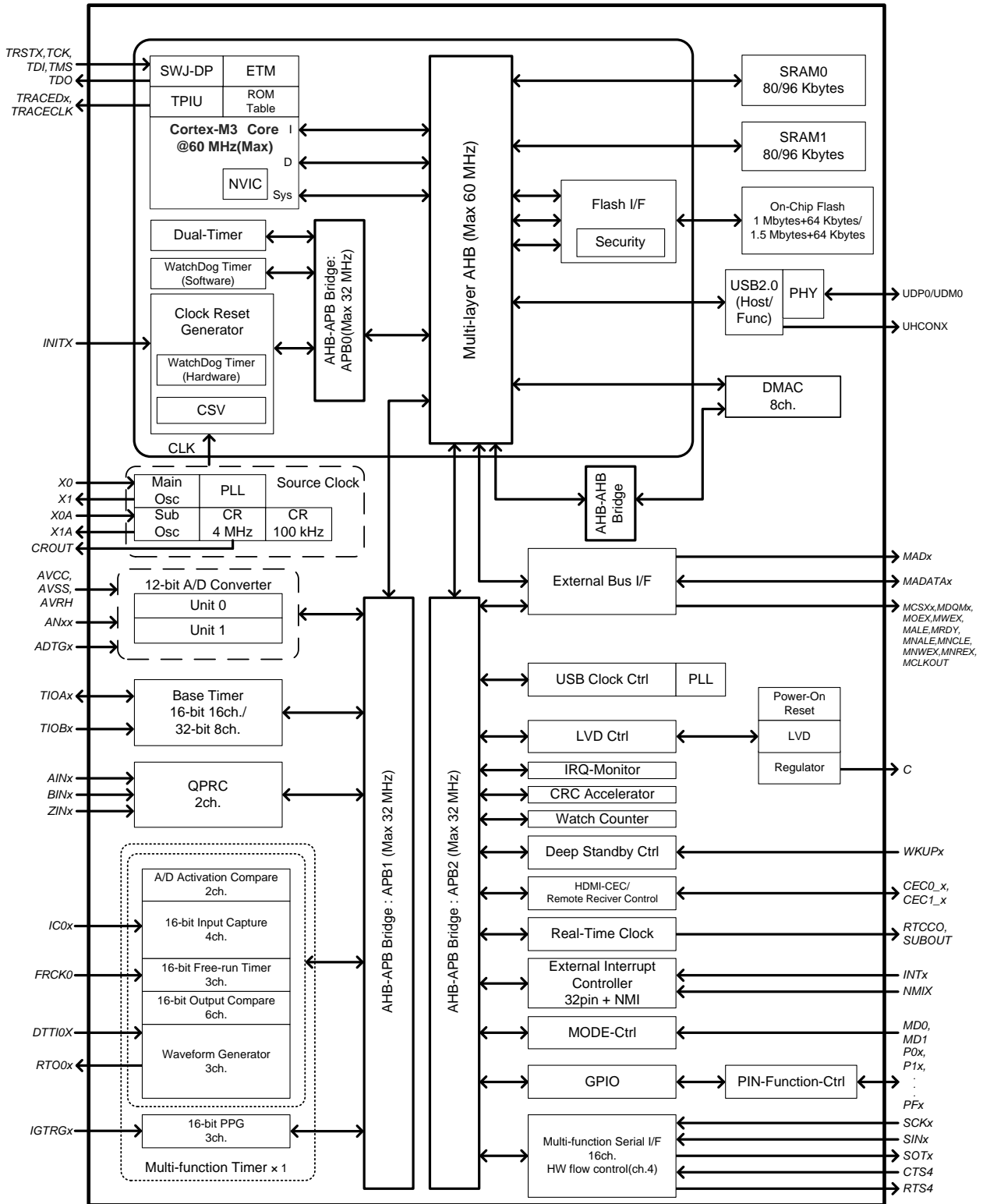| Part number	Package
MB9BF328SPMC	Plastic・LQFP(0.5mm pitch),144-pin (FPT-144P-M08)
MB9BF329SPMC	
MB9BF328TPMC	Plastic・LQFP(0.5mm pitch),176-pin (FPT-176P-M07)
MB9BF329TPMC	
MB9BF328TBGL	Plastic・BGA(0.8mm pitch),192-pin (BGA-192P-M06)
MB9BF329TBGL	

4. PACKAGE EXAMPLE OF REFERENCE
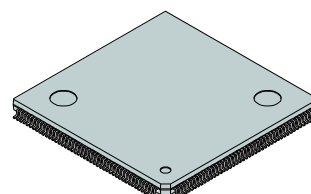
Plastic ・ LQFP、176-pins
(FPT-176P-M07)

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5.   BLOCK DIAGRAM

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