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#### **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.

# S6E1A1 Series

## 32-bit Microcontroller FM0+ Family

### Fact Sheet (Full Production)



S6E1A1 Series are highly integrated 32-bit microcontrollers designed for embedded controllers aiming at low power consumption and low cost. S6E1A1 Series are based on the ARM Cortex-M0+ Processor with Flash memory and SRAM, and has peripheral functions such as Motor Control Timer, ADC and Communication Interfaces.

## 1. FEATURES

- **ARM Cortex-M0+ CPU Core**
  - Processor version : r0p1
- **Clock**
  - Maximum clock frequency : 40MHz
- **Bit Band operation**
  - Compatible with Cortex-M3 bit band operation
- **Base Timer** : Max. 4 channels
- **Watch counter**
- **Multi-function Timer** : 1 unit
  - 16-bit free-run timer x3 channels
  - Input capture x4 channels
  - Output compare x6 channels
  - A/D activation compare x6channels
  - Waveform generator x3 channels
  - 16-bit PPG timer x3 channels
- **QPRC** : 1 channel
- **Dual Timer** : 1 unit
- **Watch dog Timer** : 1 channel (SW) + 1 channel (HW)
- **Multi-function Serial Interface** : Max. 3 channels
  - Selectable from UART/CSIO/LIN/I<sup>2</sup>C
  - FIFO in all channels
- **Real Time Clock** : 1 unit
- **DMA Controller** : 2 channels
- **External Interrupt Controller Unit**
  - External interrupt input pin : Max. 8 pins
  - Include one non-maskable interrupt (NMI)
- **12-bit A/D Converter** : Max. 8 channels (1 unit)
- **Low Power Consumption Mode**
  - Sleep mode/Timer mode/RTC mode/Stop mode
- **Peripheral Clock Gating**
- **General Purpose I/O port**
  - S6E1A11B0A/S6E1A12B0A : Max. 23 pins
  - S6E1A11C0A/S6E1A12C0A : Max. 37 pins
  - All ports are Fast GPIO can be accessed by 1 cycle
- **Built-in CR**
- **Unique ID**
- **Debug**
  - Serial Wire Debug Port (SW-DP)
  - Micro Trace Buffer(MTB)
- **Low Voltage Detector**
- **Clock Supervisor**
- **Power Supply** : 2.7 to 5.5V

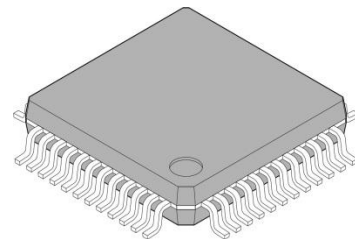
## 2. PRODUCT LINEUP

Part number	S6E1A11B0A	S6E1A12B0A
Parameter	S6E1A11C0A	S6E1A12C0A
Flash Memory (Byte)	56K	88K
RAM (Byte)	6K	6K

## 3. ORDERING INFORMATION

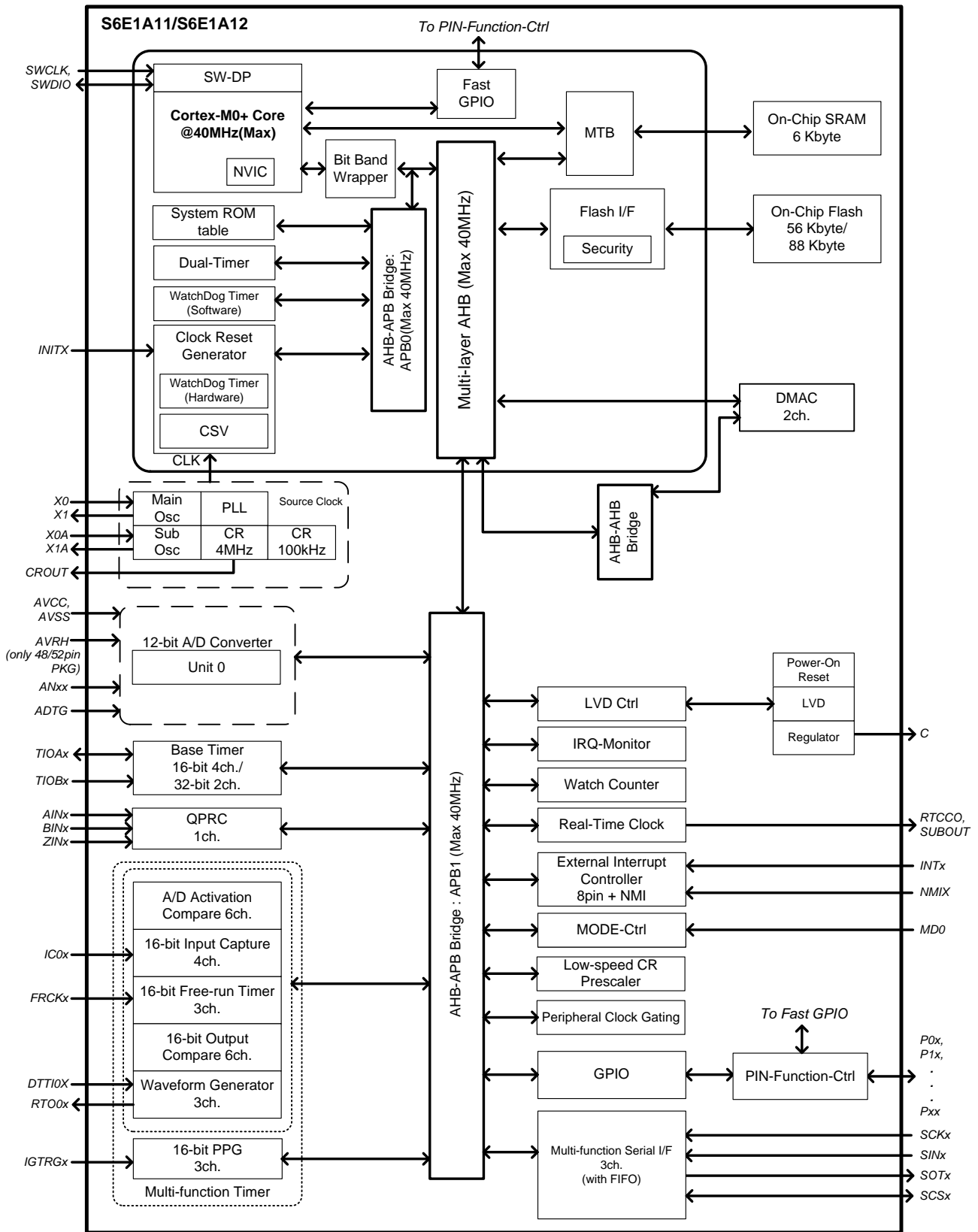
Part number	Package
S6E1A11B0AGP2	Plastic · LQFP(0.8mm pitch), 32-pins (FPT-32P-M30)
S6E1A12B0AGP2	
S6E1A11B0AGN2	Plastic · QFN(0.5mm pitch), 32-pins (LCC-32P-M73)
S6E1A12B0AGN2	
S6E1A11C0AGV2	Plastic · LQFP(0.5mm pitch), 48-pins (FPT-48P-M49)
S6E1A12C0AGV2	
S6E1A11C0AGN2	Plastic · QFN(0.5mm pitch), 48-pins (LCC-48P-M74)
S6E1A12C0AGN2	
S6E1A11C0AGF2	Plastic · LQFP(0.65mm pitch), 52-pins (FPT-52P-M02)
S6E1A12C0AGF2	

## 4. PACKAGE EXAMPLE OF REFERENCE



Plastic · LQFP, 48-pins  
(FPT-48P-M49)

## 5. BLOCK DIAGRAM



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