



Cypress Microsystems CY8C25xxx/26xxx Highlights

The CY8C25xxx/26xxx family of Programmable System-on-Chip (PSoC™) devices replaces many MCU-based system components with one single-chip, programmable device. A single PSoC device provides a fast microcontroller core, Flash program memory, and SRAM data memory with configurable analog and digital peripheral blocks in a range of convenient pin-outs and memory sizes. The power of the PSoC comes from the user configurability of the analog and digital arrays, the PSoC blocks.

Powerful Harvard Architecture Processor with Fast Multiply/Accumulate

- Processor speeds to 24MHz
- Register speed memory transfers
- Instruction set that is easy to learn and use
- Flexible addressing modes
- Bit manipulation on I/O and memory
- 8x8 multiply, 32-bit accumulate

Flexible On-Chip Memory

- FLASH memory, 4K to 16 KBytes, depending on device
- 100,000 erase/write cycles
- SRAM memory, 128 to 256 bytes, depending on device
- Serial programming capability
- Partial Flash updates
- Flexible protection model
- EEPROM emulation in Flash

Programmable System-on-Chip (PSoC™) Blocks

- On-chip, user configurable analog and digital peripheral blocks
- PSoC blocks can be used individually or in combination
- Analog PSoC blocks provide:
 - Up to 12 bit Delta-Sigma ADC
 - Up to 8 bit Successive Approximation ADC
 - Up to 12 bit Incremental ADC
 - Up to 8 bit direct DAC
 - Programmable gain
 - Sample and hold
 - Programmable filters
 - Differential comparators
 - On-chip temperature sensor
- Digital PSoC blocks provide:
 - Multipurpose timers: event timing, real-time clock, pulse width modulation (PWM) and PWM with deadband
 - CRC modules
 - Full-duplex UARTs
 - SPI™ master or slave configuration
 - Complex clocking sources for analog PSoC blocks

Programmable Pin Configurations

- Schmitt trigger TTL I/O pins
- Configurable output drive to 25 mA with internal pull-up or pull-down resistors, open drain, or active driver
- Interrupt on Pin Change

Precision, Programmable Clocking

- Internal 48/24MHz oscillator (+/- 2.5%, no external components)
- External 32.768kHz crystal oscillator (optional precision source for PLL)
- Internal Low Speed Oscillator for Watchdog and Sleep

Dedicated Peripherals

- Watchdog/Sleep Timers
- 5V and 3V Brownout protection with user-configurable trip voltages
- On-chip voltage reference
- On-chip temperature sensor

Fully Static CMOS Devices utilizing advanced FLASH technology

- Low power at high speed
- Operating voltage from 2.7 to 5.5 VDC
- Operating voltages from 0.9V to 5.5 VDC using on-chip switch mode voltage pump
- Wide temperature range: -40 °C to + 85 °C

Complete Development Tools

- Powerful integrated development environment (PSoC Designer™)
- Low-cost, in-circuit emulator and programmer



Cypress MicroSystems CY8C25xxx/26xxx Highlights