



AX203 8-bit CMOS Microcontroller



High Performance 8-bit RISC MCU

- DC-24MHz operation
- Compatible with 8051
- 160ns internal interrupt response at 24 MHz
- Single cycle per byte fetch
- All instructions are single-cycled except branching instructions

Program Memory and Data Memory

- 16K Bytes OTP program memory
- 384 Bytes internal SRAM for data/stack memory
- 208 Bytes FIFO memory (shared with USB)
- External 64K Bytes external memory interface compatible to true 8051
- Two data pointers for indirect addressing

Interrupt Features

- 14 vectored interrupts
- 2-level interrupt priority
- External wakeup/interrupt capabilities on 3 GPIO pins and USB PHY

Flexible I/O

- 32 GPIO pins organized in 4 ports
- Support open-drain or push-pull driving
- CMOS/TTL-level Schmitt triggered inputs
- Optional internal 20Kohm pull-up resistor
- 6mA sink/source current driving capability

Digital Peripheral Features

- Two 16-bit timers compatible with 8051's timer0 timer1
- Enhanced 8052's timer 2. Support Capture/Reload, PWM mode and clock generation
- Real-time wake up for software clock implementation
- Watchdog Timer with on-chip 16KHz RC oscillator
- High-speed full-duplex 8051-compatible serial port
- Enhanced SPI with double-buffer for read and write. Operates up to 12Mb/s
- GPSI with 16-bit/32-bit packet header, for interfacing RF module, Ethernet PHY and for inter-chip communication
- Full-speed USB 2.0 Device controller module with 3 endpoints (including endpoint 0) and 208 bytes FIFO
 - Endpoint 0: 16 bytes
 - Endpoint 1: IN 64 bytes / OUT 64 bytes
 - Endpoint 2: IN 32 bytes / OUT 32 bytes

Analog Peripheral Features

- 4~24MHz Crystal Oscillator
- 32,768 Hz Real-time Crystal Oscillator
- 16KHz RC oscillator
- Full-speed USB 2.0 Device PHY
- Digital PLL for 48MHz clock generation
- 8 channels 8-bit ADC
- Power-on reset
- On-chip regulator for 5V to 3.3V conversion

Programming and Debugging Support

- In-System Programming (ISP) support
- In-System Debugging (ISD) support

Packages

- 48-pin LQFP
- DIE form

Applications

- Digital Photo Frame (1.1" - 2.4")
- USB Key
- Card Reader



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