



C8051F311

16K Flash, 1.25K RAM, 10-bit ADC, 28-Pin MCU

PRELIMINARY

ANALOG PERIPHERALS

- **10-bit ADC**
 - ± 1 LSB INL; No Missing Codes
 - Programmable Throughput up to 200ksps
 - Up to 17 External Inputs; Programmable as Single-Ended or Differential
 - Data Dependent Windowed Interrupt Generator
 - Built-in Temperature Sensor ($\pm 3^\circ\text{C}$)
- **Two Comparators**
 - Programmable Hysteresis and Response Time
 - Configurable as Wake-Up or Reset Source
 - Low Current (0.4uA)
- **POR/Brown-out Detector**

ON-CHIP DEBUG

- On-Chip Debug Circuitry Facilitates Full Speed, Non-Intrusive In-System Debug (No Emulator Required!)
- Provides Breakpoints, Single Stepping
- Inspect/Modify Memory and Registers
- Superior Performance to Emulation Systems Using ICE-Chips, Target Pods, and Sockets
- Low Cost, **Complete** Development Kit

SUPPLY VOLTAGE 2.7V to 3.6V

- Typical Operating Current: 7mA @ 25MHz
15uA @ 32kHz
- Typical Stop Mode Current: <0.1uA

HIGH SPEED 8051 μC CORE

- Pipelined Instruction Architecture; Executes 70% of Instructions in 1 or 2 System Clocks
- Up to **25 MIPS** Throughput with 25MHz System Clock
- Expanded Interrupt Handler

MEMORY

- 1280 Bytes Internal Data RAM (256 + 1k)
- 16k Bytes FLASH; In-System Programmable in 512-Byte Sectors

DIGITAL PERIPHERALS

- 25 Port I/O (All 5V Tolerant with High Sink Current)
- Hardware SMBusTM (I2CTM Compatible), SPITM, and UART Serial Ports Available Concurrently
- Programmable 16-bit Counter/Timer Array with Five Capture/Compare Modules, WDT
- Four General Purpose 16-bit Counter/Timers
- Real-Time Clock Mode Using Timer or PCA

CLOCK SOURCES

- Internal Oscillator: 24.5MHz, 2% Accuracy Supports UART Operation
- External Oscillator: Crystal, RC, C, or Clock (1 or 2 Pin Modes)
- Can Switch Between Clock Sources On-The-Fly; Useful in Power Saving Modes

28-Pin MLP Package – 5mm x 5mm

Temperature Range: -40°C to $+85^\circ\text{C}$



