Preliminary

C8051F330/1

8K ISP FLASH MCU Family

ANALOG PERIPHERALS
- **10-Bit ADC ('F330 only)**
  - Up to 200 ksps
  - Up to 16 External Single-Ended or Differential Inputs
  - VREF from Internal VREF, External Pin or VDD
  - Internal or External Start of Conversion Source
  - Built-in Temperature Sensor
- **10-Bit Current Output DAC ('F330 only)**
- **Comparator**
  - Programmable Hysteresis and Response Time
  - Configurable as Interrupt or Reset Source
  - Low Current (0.4 µA)

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:6.4mA @ 25 MHz; 9µA @ 32 kHz
- Typical Stop Mode Current:0.1 µA

TEMPERATURE RANGE: -40°C TO +85°C

HIGH SPEED 8051 µC CORE
- Pipelined Instruction Architecture; Executes 70% of Instructions in 1 or 2 System Clocks
- Up to 25 MIPS Throughput with 25 MHz Clock
- Expanded Interrupt Handler

MEMORY
- 768 Bytes Internal Data RAM (256 + 512)
- 8k Bytes FLASH; In-system programmable in 512-byte Sectors

DIGITAL PERIPHERALS
- 17 Port I/O; All 5 V tolerant with High Sink Current
- Hardware Enhanced UART, SMBus™, and Enhanced SPI™ Serial Ports
- Four General Purpose 16-Bit Counter/Timers
- 16-Bit Programmable Counter Array (PCA) with three Capture/Compare Modules
- Real Time Clock Mode using PCA or Timer and External Clock Source

CLOCK SOURCES
- Two Internal Oscillators:
  - 24.5 MHz with ±2% Accuracy Supports crystal-less UART Operation
  - 80/40/20/10 kHz Low Frequency, Low Power
- 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

20-PIN MICRO LEAD PACKAGE