C8051F340

USB, 48 MIPS, 64 kB Flash, 10-Bit ADC, 48-Pin Mixed-Signal MCU

Analog Peripherals

10-Bit ADC

- ±1 LSB INL; no missing codes
- Programmable throughput up to 200 ksps
- Up to 17 external inputs; programmable as single-ended or differential
- Built-in temperature sensor (±3 °C)

Two Comparators

Internal Voltage Reference: 2.4 V

POR/Brown-out Detector

USB Function Controller

- USB specification 2.0 compliant
- Full-speed (12 Mbps) or low-speed (1.5 Mbps) operation
- Integrated clock recovery; no external crystal required for either full-speed or low-speed operation
- Supports eight flexible endpoints
- Dedicated 1 kB USB buffer memory
- Integrated transceiver; no external resistors required

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, registers, and USB memory
- Superior performance to emulation systems using ICE-chips, target pods, and sockets

Temperature Range: –40 to +85 °C

High-Speed 8051 µC Core

- Pipelined instruction architecture; executes 70% of instructions in 1 or 2 system clocks
- Up to 48 MIPS throughput with 48 MHz Clock
- Expanded interrupt handler

Memory

- 4352 bytes data RAM (256 + 4 kB)
- 64 kB Flash; in-system programmable in 512-byte sectors (512 bytes are reserved)
- External parallel data memory interface

Digital Peripherals

- 40 port I/O; all are 5 V tolerant
- Hardware SMBus™ (I^2C™ compatible), SPI™, and 2 UART serial ports available concurrently
- 4 general-purpose 16-bit counter/timers
- Programmable 16-bit counter array with 5 capture/compare modules

Clock Sources

- Internal oscillator: 0.25% accuracy with clock recovery enabled; supports all USB and UART modes
- External oscillator: Crystal, RC, C, or Clock
- On-chip clock multiplier: up to 48 MHz

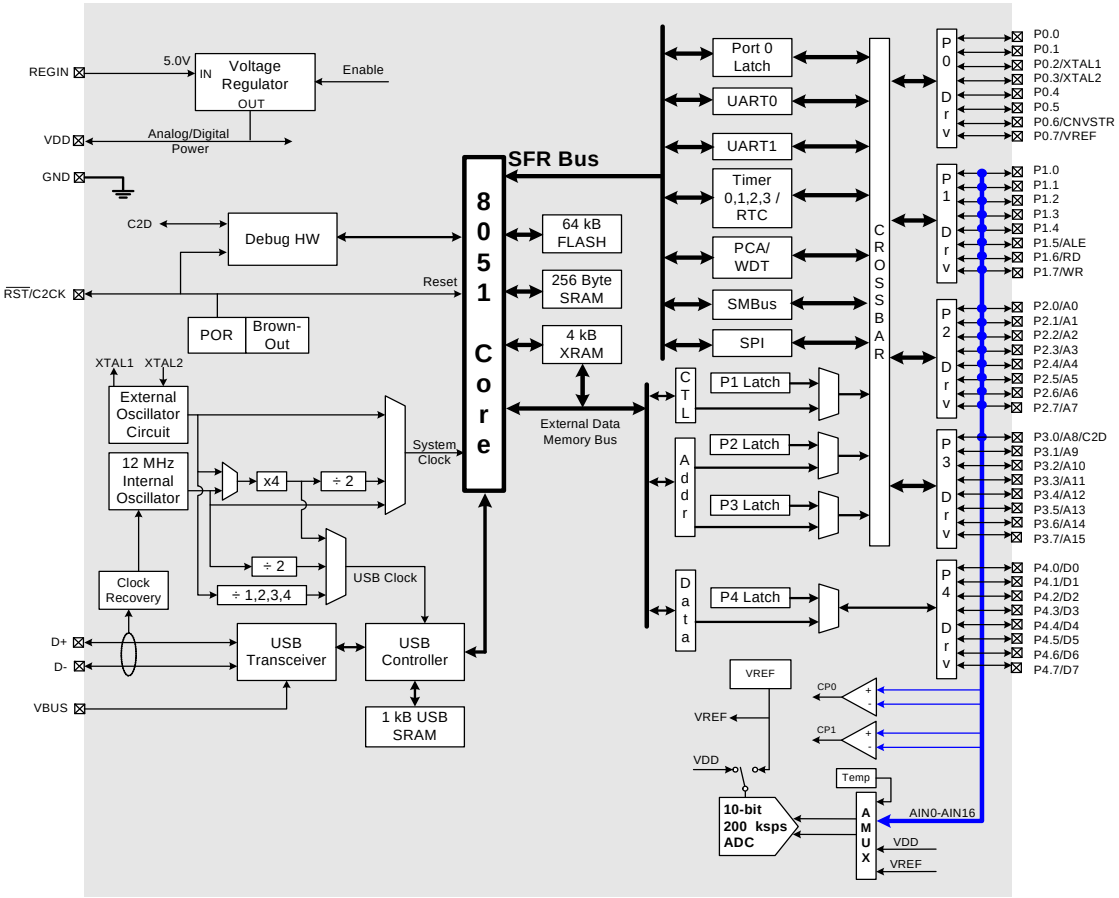
Voltage Regulator

- On-chip voltage regulator supports USB bus-powered operation
- Regulator bypass mode supports USB self-powered operation

Operating Voltage: 2.7 to 5.25 V

Ordering Part Number

- C8051F340-GQ, 48-Pin TQFP, 9x9 mm^2



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