Zilog's Z51F0410 MCU

An Industry-Standard 8-Bit Embedded Control Solution

Overview

The Z51F0410 MCU, a member of Zilog's new Z8051 product family, is an advanced CMOS 8-bit microcontroller with 4KB of Flash memory. This powerful microcontroller provides a highly flexible and cost-effective solution to many embedded control applications, including electronic locks, keyless entry systems and garage door openers. With 256 bytes of RAM, 256 bytes of data EEPROM, two clocks per machine cycle, general-purpose I/O, multiple timers (2x8-bit and 1x16-bit), plus PWM, watchdog and watch timers, USART, buzzer port, I2C, on-chip POR, 12-bit ADC and much more, the Z51F0410 MCU is your 4K Flash solution for 8051 embedded application development.

Z51F0410 MCU Block Diagram

Z8051 FAMILY ADVANTAGES

- High-Performance, Low-Cost Architecture
- Industry-Standard 8051-Compatible Core
- Industry-Wide Popularity
- Numerous Third-Party Tools Available
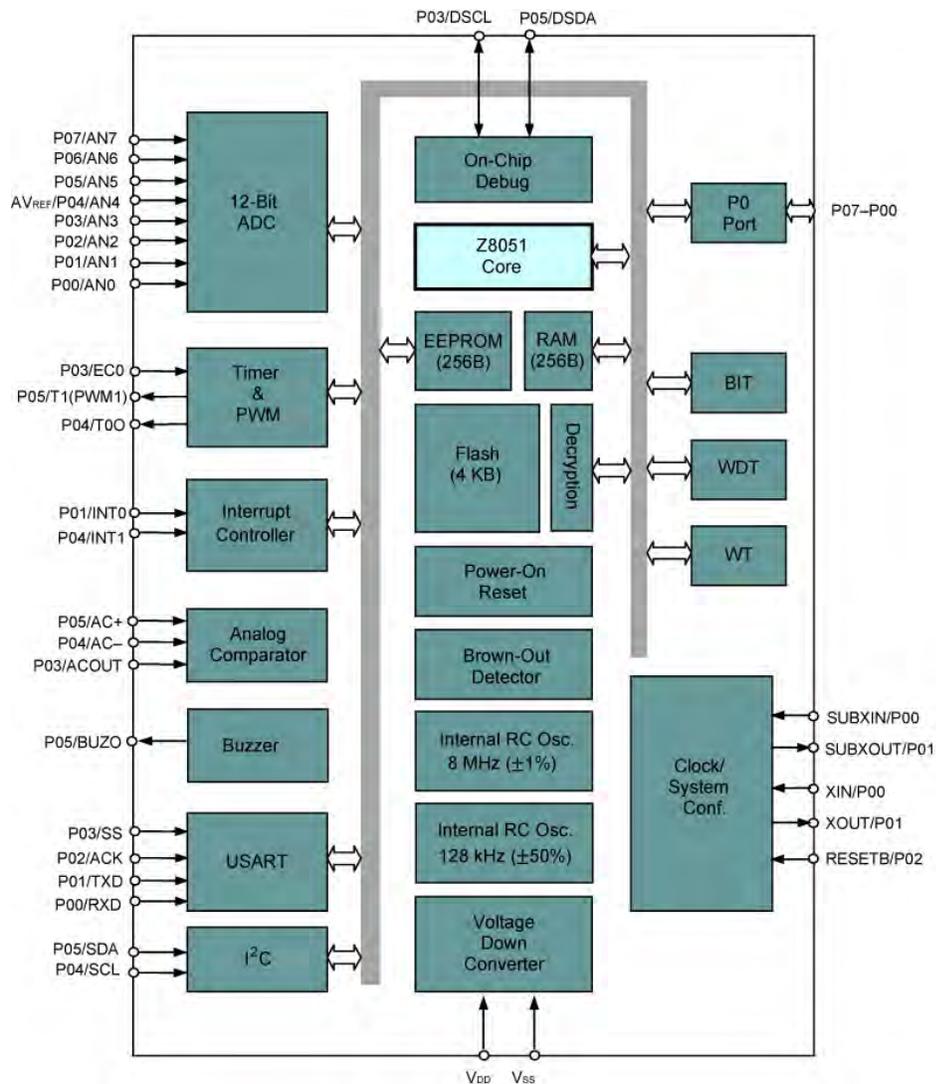- Zilog's Continuing Commitment to Supporting Our Customers

KEY FEATURES

- High-Performance 8-Bit CISC Core
- 12-Bit, 8-Channel ADC
- Analog Comparator
- Timers with Capture, Counter, Compare and PWM Modes
- Internal RC Oscillator for Lower Component Count
- Code Encryption Option

Z51F0410 MCU Feature Set

- High-Performance 8-Bit CISC Core (2 clocks per machine cycle)
- 4KB On-Chip Flash Memory with Code Encryption Option
- 256 Bytes SRAM
- 256 Bytes Data EEPROM
- Operating Frequency: 0–8 MHz
- Operating Voltage: 1.8V–5.5V
- On-Chip RC Oscillators
    - 125 kHz
    - 8 MHz with Divider Option
- Power-Saving Modes (Idle, Stop1, Stop 2)
- 12-bit ADC with 8 Input Channels
- Configurable Timers
    - Timer/Counter (8 bits x 2 channels or 16 bits by 1 channel)
    - 10-bit Pulse Width Modulator with Timer
    - Basic Interval Timer
- Watchdog Timer
- Watch Timer
- Universal Synchronous/Asynchronous Receiver/Transmitter (USART/SPI/I²C)
- Analog Comparator
- Buzzer Driver Port
- 8 GPIO pins, configurable as push-pull, pull-up or open-drain
- Multiple Interrupts from Multiple Sources via Priority Setting
- Programmable Brown-Out Detector
- Low-Frequency Subactive Mode
- Operating Temperature: –40°C to 85°C
- Package: 10-Pin SSOP
- Lead-Free Manufacture

Zilog's Z8051 Family of MCUs: flexible, industry-standard MCU solutions backed by Zilog's long-term commitment to supporting our customers.

APPLICATIONS

- Electronic Locks
- Keyless Entry
- Garage Door Openers
- Battery Management
- Embedded Controls Monitoring
- LED Lighting Control

Ordering Information

The Z51F0410 MCU is offered in the following packages. Construct your part number based on the specific package you wish to order.

Z51F0410 MCU Part Number	ROM	RAM	EEPROM	Package
Z51F0410HCX	4 KB	256b	256b	10-pin SSOP

Order the Z51F0410 MCU separately using part numbers from the above table. For complete ordering information, please refer to the Z51F0410 MCU Product Specification (PS0295).

For more information about Zilog's Z8051 family of products, ordering or product collateral, please consult your local Zilog distributor or representative. You can find sales office locations and the most current product information on our website; please visit us at www.zilog.com.

Documentation

For a complete listing of all available application notes, data sheets, user manuals, and sample libraries, please visit us at www.zilog.com.

Document Number	Description
PS0295	Z51F0410 Product Specification

Related Products

Zilog carries a number of products based on the Z8051 Core to suit your application requirements. For more information about the following products, please visit us at www.zilog.com.

Product Name	Description
Z51F0811 MCU	Z8051 core with 8KB Flash, 256b RAM and 512b EEPROM in 10-, 20- & 28-pin TSSOP and 32-pin QFN packages
Z51F3220 MCU	Z8051 core with 32KB Flash, 1KB RAM in 32-pin SOP & 44-pin MQFP packages
Z51F3221 MCU	Z8051 core with 32KB Flash, 1.25KB RAM in 64- & 80-pin LQFP packages
Z51F6412 MCU	Z8051 core with 64KB Flash, 3.25KB RAM in 64- & 80-pin LQFP packages

Warning: DO NOT USE THIS PRODUCT IN LIFE SUPPORT SYSTEMS.

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