



Z51F0811 Product Brief

PB023802-0312

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

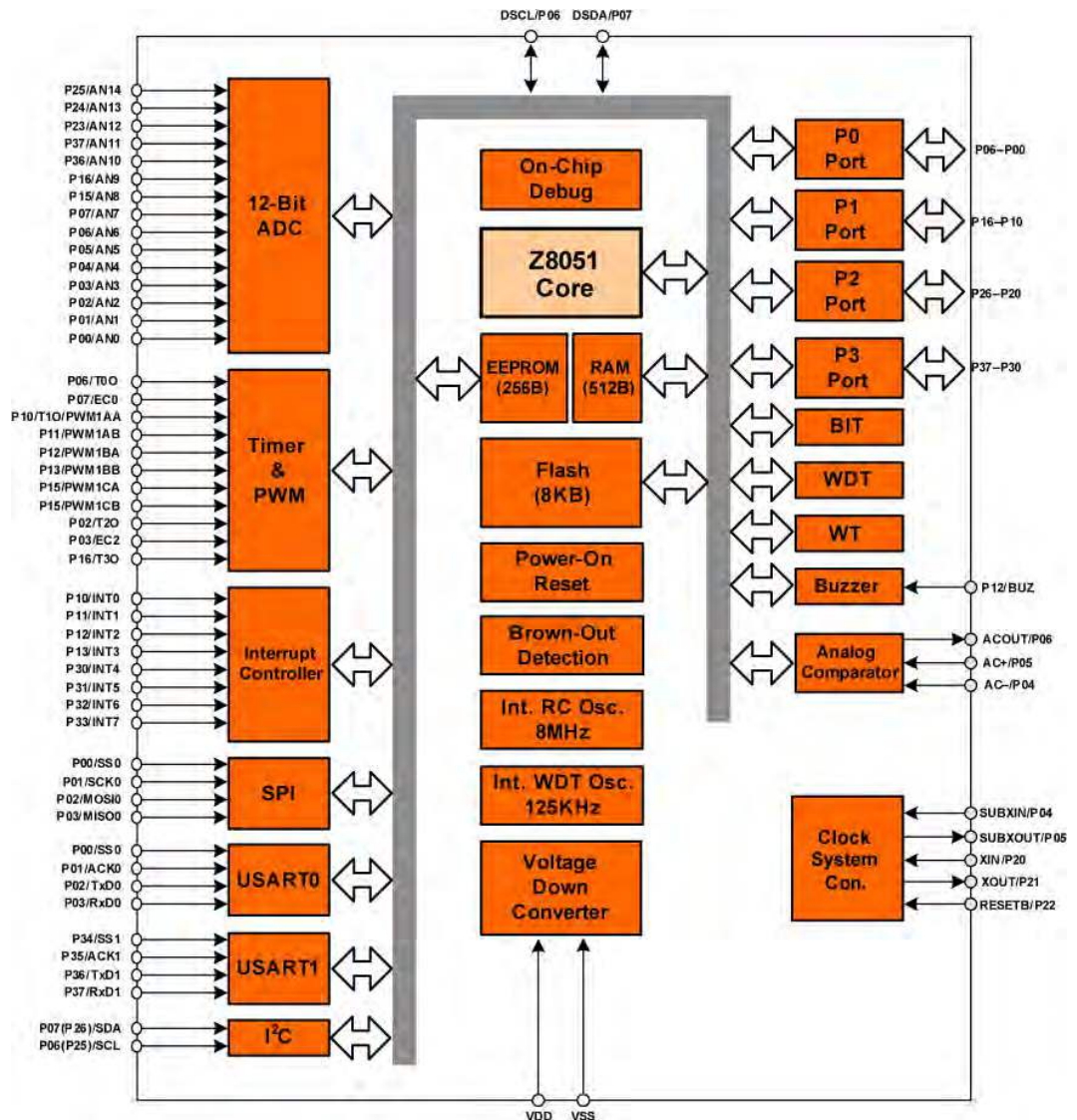
Zilog's Z51F0811 MCU

An Industry-Standard 8-Bit Embedded Control Solution

Overview

The Z51F0811 MCU, a member of Zilog's new Z8051 product family, is an advanced CMOS 8-bit microcontroller with 8KB of Flash memory. This powerful microcontroller provides a highly flexible and cost-effective solution to many embedded control applications, including battery management, LED lighting control and motor control. With 512 bytes of RAM, 256 bytes of data EEPROM, two clocks per machine cycle, general-purpose I/O, multiple timers (4x8-bit and 2x16-bit), plus PWM, watchdog and watch timers, USART, buzzer port, I²C, on-chip POR, 12-bit ADC and much more, the Z51F0811 MCU is your 8K Flash solution for 8051 embedded application development.

Z51F0811 MCU Block Diagram



KEY FEATURES

- High-Performance 8-Bit CISC Core
- 8 to 15 12-Bit ADC Channels
- Timers with Capture, Counter & Compare Modes and 3 PWM Complementary Pairs
- I²C, SPI, 2 USARTs, Analog Comparator
- Internal RC Oscillator for Lower Component Count

Z51F0811 MCU Feature Set

- High-Performance 8-Bit CISC Core (2 clocks per machine cycle)
- 8 KB On-Chip Flash Memory
- 512 Bytes SRAM
- 256 Bytes Data EEPROM @ 300,000 cycle endurance
- Operating Frequency: 0–12 MHz
- Operating Voltage: 1.8V–5.5V
- On-Chip 8 MHz RC Oscillator with Programmable Clock Divider
- Power-Saving Modes (Idle, Stop1, Stop 2)
- Configurable Timers
 - Timer/Counter (8 bits x 4 channels or 16 bits by 2 channels) plus 16-bit Internal Timer/Counter
 - 10-bit PWM with Timer and 3 Complementary Pairs with Deadband Insertion
 - Basic Interval Timer
- Watchdog Timer
- Watch Timer
- Universal Synchronous/Asynchronous Receiver/Transmitter (2-channel USART/SPI/I²C)
- Dedicated Serial Peripheral Interface
- 12-bit ADC with 8 to 15 Input Channels
- Analog Comparator
- Buzzer Driver Port
- Up to 30 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
- Packages: 32-Pin QFN, 28-Pin TSSOP, 20-Pin TSSOP, 16-Pin TSSOP
- 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

- Garage Door Openers
- Battery Management
- Embedded Controls Monitoring
- LED Lighting Control
- Motor Control

Ordering Information

The Z51F0811 MCU is offered in the following packages. Construct your part number based on the specific package you wish to order.

| Z51F0811 MCU Part Number | ROM | RAM | EEPROM | Package |
|--------------------------|------|------|--------|--------------|
| Z51F0811QUX | 8 KB | 256b | 512b | 32-pin QFN |
| Z51F0811RJX | 8 KB | 256b | 512b | 28-pin TSSOP |
| Z51F0811RHX | 8 KB | 256b | 512b | 20-pin TSSOP |
| Z51F0811RFX | 8 KB | 256b | 512b | 16-pin TSSOP |

Order the Z51F0811 MCU separately using part numbers from the above table. For complete ordering information, please refer to the Z51F0811 MCU Product Specification (PS0296).

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 |
|-----------------|-------------|
|-----------------|-------------|

| | |
|--------|--------------------------------|
| PS0296 | Z51F0811 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 |
|--------------|-------------|
|--------------|-------------|

| | |
|--------------|--|
| Z51F0410 MCU | Z8051 core with 4KB Flash, 256b RAM and 256b EEPROM in a 10-pin SSOP package |
| 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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