Z51F3220 Product Brief

PB023903-0312

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

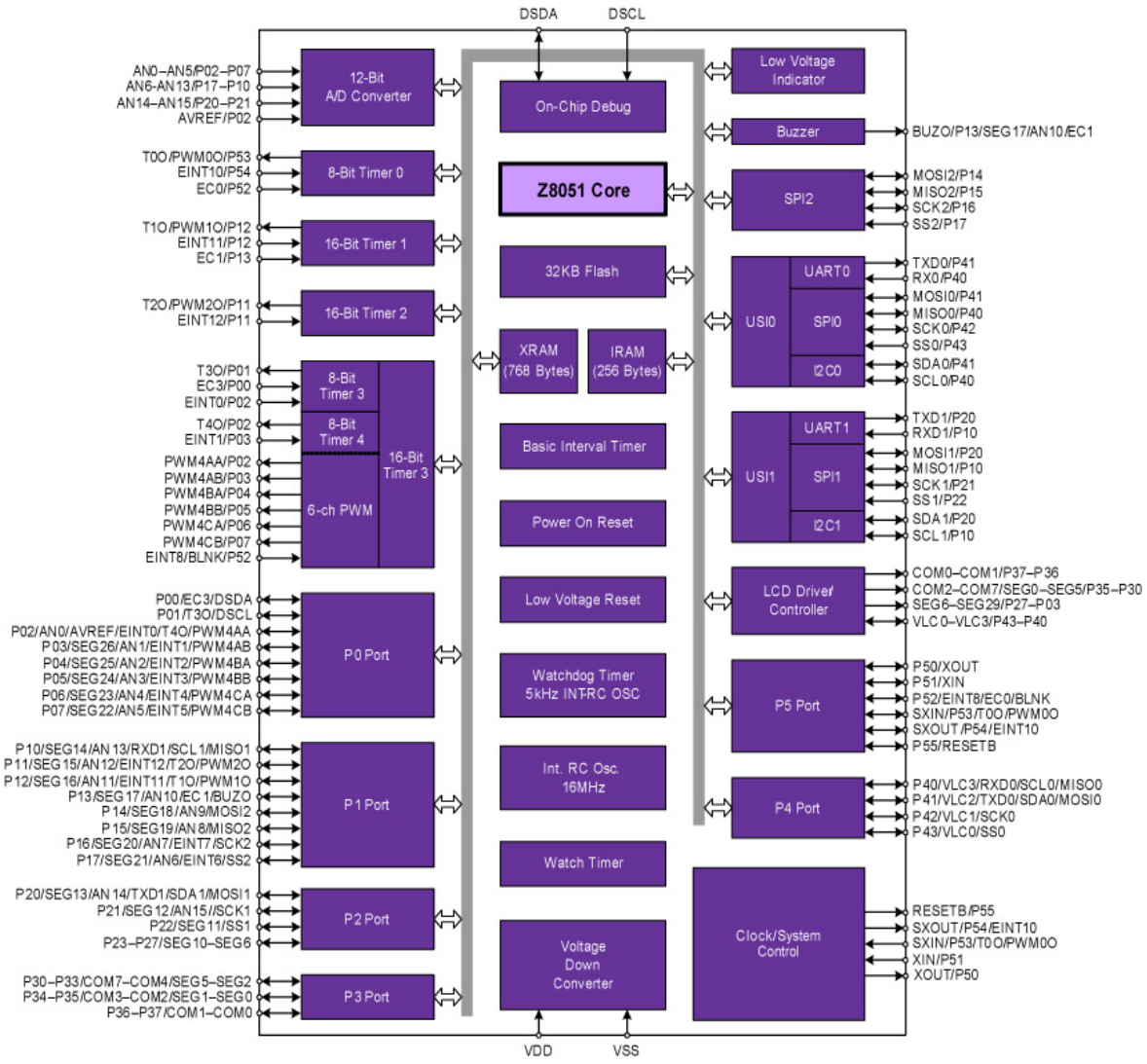
Zilog's Z51F3220 MCU

An Industry-Standard 8-Bit Embedded Control Solution

Overview

The Z51F3220 MCU, a member of Zilog's new Z8051 product family, is an advanced CMOS 8-bit microcontroller with 32KB of Flash memory. This powerful microcontroller provides a highly flexible and cost-effective solution to many embedded control applications, including battery management, thermostats, and control panels for appliances. With 1KB of RAM, two clocks per machine cycle, general-purpose I/O, multiple timers (1x8-bit, 2x8-bit, 1x16-bit and 2x16-bit), plus PWM, watchdog and watch timers, UART, buzzer port, I²C, on-chip POR, 12-bit ADC and much more, the Z51F3220 MCU is your 32K Flash solution for 8051 embedded application development.

Z51F3220 MCU Block Diagram



KEY FEATURES

- High-Performance 8-bit CISC Core
- 12 to 16 12-Bit ADC Channels
- LCD Driver (21 segments/8 common)
- Internal RC Oscillator for Lower Component Count
- Timers with Multiple 8- and 16-bit Capture, Counter, Compare and PWM Modes

Z51F3220 MCU Feature Set

- High-Performance 8-Bit CISC Core (2 clocks per machine cycle)
- 32KB On-Chip Flash Memory
- 256 Bytes IRAM
- 768 Bytes XRAM
- Operating Frequency: 0–16 MHz
- Operating Voltage: 1.8V–5.5V
- Internal 16 MHz RC Oscillator with Programmable Clock Divider
- Power-Saving Modes (Idle, Stop)
- Configurable Timers
  - Timer/Counter (8 bits x 1 channel, 16 bits by 2 channels, 8 bits x 2 channels or 16 bits by 1 channel)
  - 8-bit Capture and Compare PWM Timer
  - Two 16-Bit Capture and Compare PWM Timers
  - Two 8-Bit or one 16-bit Counter/Capture Timers or 10-Bit PWM in 3 Complementary Pairs with Programmable Delay
  - Programmable Pulse Generator
  - Basic Interval Timer
- Watchdog Timer
- Watch Timer
- Dedicated SPI Port
- 2 Universal Asynchronous Receivers/Transmitters (UART/SPI/I^2C)
- LCD Driver (21 segments/8 common)
- Buzzer Driver Port
- 42 GPIO pins, configurable as push-pull, pull-up or open-drain
  - 9 general-purpose pins
  - 33 shared LCD pins
- 33 GPIO LCD pins
- 12-Bit ADC with 12 to 16 Input Channels
- Multiple Interrupts from Multiple Sources via Priority Setting
- Programmable Brown-Out Detector
- Operating Temperature: –40°C to 85°C
- Packages: 44-pin MQFP, 32-Pin SOP
- 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

- Battery Management
- Motor Control
- Thermostats, Appliance Control Panels, Digital Clocks
- Medical Devices
- Embedded Controls Monitoring
- LED Lighting Control

Ordering Information

The Z51F3220 MCU is offered in the following packages. Construct your part number based on the specific package you wish to order.

Z51F3220 MCU Part Number	ROM	IRAM	XRAM	Package
Z51F3220FNX	32 KB	256b	768b	44-pin MQFP
Z51F3220SKX	32 KB	256b	768b	32-pin SOP

Order the Z51F3220 MCU separately using part numbers from the above table. For complete ordering information, please refer to the Z51F3220 MCU Product Specification (PS0299).

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
PS0299	Z51F3220 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
Z51F0811 MCU	Z8051 core with 8KB Flash, 256b RAM and 512b EEPROM in 16-, 20- & 28-pin TSSOP and 32-pin QFN 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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