Z86C03/C06

8-BIT CMOS Z8® MCU

FEATURES

Device	ROM (KB)	RAM* (Bytes)	I/O Lines	Speed
Z86C03	512 KB	60	14	8 MHz
Z86C06	1 KB	124	14	12 MHz

Note: *General-Purpose

- 18-Pin Package (DIP, SOIC)

- 3.0 - 5.5 V Operating Range

- Operating Temperature: –40°C to +105°C

- Fast Instruction Pointer: 1.5 μs @ 8 MHz (C03); 1.0 μs @ 12 MHz (C06)

- Multiple Expanded Register File Control Registers and Two SPI Registers (Z86C06 Only)

- One/Two Programmable 8-Bit Counter/Timers, Each with a 6-Bit Programmable Prescaler

- Six Vectored, Priority Interrupts from Six Different Sources

- Software-Enabled Watch-Dog Timer

- Power-On Reset Timer

- Two Standby Modes: STOP and HALT

- Two Comparators with Programmable Interrupt Polarity

- 14 Input/Output Lines (Two with Comparator Inputs)

- On-Chip Oscillator that Accepts a Crystal, Ceramic Resonator, LC, RC, or External Clock Drive.

- Serial Peripheral Interface (SPI) (Z86C06 Only)

- Software Programmable Low EMI Mode

- ROM Protect Option

- Auto Latches

GENERAL DESCRIPTION

The Z86C03/C06 CCP™ (Consumer Controller Processors) are members of the Z8® MCU single-chip family with enhanced wake-up circuitry, programmable watch-dog timers, and low noise/EMI options. These enhancements result in a more efficient, cost-effective design and provide the user with increased design flexibility over the standard Z8 microcontroller core. With 512 and 1KB of ROM and 60 and 124 bytes of general-purpose RAM, respectively, these low-cost, low-power consumption CMOS microcontrollers offer fast execution, efficient use of memory, sophisticated interrupts, input/output bit manipulation capabilities, and easy hardware/software system expansion.

The Z86C03/C06 CCP™ architecture is characterized by Zilog's 8-bit microcontroller core with the addition of an Expanded Register File to allow easy access to register mapped peripheral and I/O circuits. The Z86C03/C06 offers a flexible I/O scheme, an efficient register and address space structure, and a number of ancillary features that are useful in many consumer, automotive, and industrial applications.

For applications demanding powerful I/O capabilities, the Z86C03/C06 provides 14 pins dedicated to input and output. These lines are grouped into two ports and are configurable under software control to provide timing, status signals, or parallel I/O.

Three basic address spaces are available to support this wide range of configurations: Program Memory, Register File, and Expanded Register File. The Register File is composed of 61/125 bytes of General-Purpose Registers, two