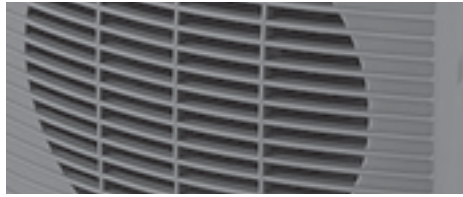


Intelligent Fan Controller Solutions

Z8 Encore! XP[®] 8-bit Microcontrollers



FAN CONTROLLER APPLICATION



XP FAMILY

FAN TYPES COMMONLY SUPPORTED

- Desktop PC's, Laptops and Servers
- Consumer Electronics Products
- Portable Cooling Devices
- Electronic Cooling and Heating Devices

FEATURES THAT SEPARATE US FROM THE REST

- On-chip integrated temperature sensor for temperature-based, closed loop control of the fan speed and audible noise
- 8-Channel, 10-bit high resolution A/D converter and two independent PWM outputs for closed loop control of two fans simultaneously, thereby providing a cost and space saving solution
- On-chip integrated analog comparator for detection of a fault condition
- Low power consumption in standby modes

THE Z8 ENCORE! XP[®] FLASH MICROCONTROLLER

ZiLOG's Z8 Encore! XP Flash microcontrollers offer high-performance and feature-rich peripherals in a portable, yet powerful 8-bit package. No other 8-bit MCU can offer the flexibility of our on-chip integrated temperature sensor, high resolution A/D converter, and two independent PWM's in an application-specific, cost-effective solution for intelligent fan control applications. Add to this an extensive development tool suite and full technical support, and you have a complete embedded control solution that affords a fast design cycle for your end application.

OVERCOMING DESIGN CHALLENGES

Proper Temperature Control & Noise Reduction

ZiLOG's full-feature Z8 Encore! XP with built-in temperature sensor allows temperature regulation in the system without the need for an external sensor. By activating your cooling system with an internal temperature sensor on-chip, your application will run quieter and your system cost will be lower.

Limited Board Space

All of ZiLOG's feature-rich performance is compacted into a small 8-pin SOIC or QFN package (requiring 5x6mm PCB space), so small real-estate requirements are easily met.

Safety

For multiple safety devices to be built into your system, this MCU includes an on-board temperature sensor to ensure proper cooling regulation. It also provides a fast shut down of the PWM via on-chip comparator, which can also be used for stall detection of the motor with a sense resistor.

High System Cost

Highly integrated microcontroller features, such as the transimpedance amplifier and the temperature sensor, give you the flexibility to reduce your overall system cost by reducing the need for more costly external components.

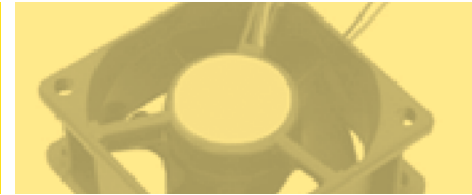
Fan Controller Solutions

Z8 Encore! XP® 8-bit Microcontrollers



FAN CONTROLLER APPLICATION

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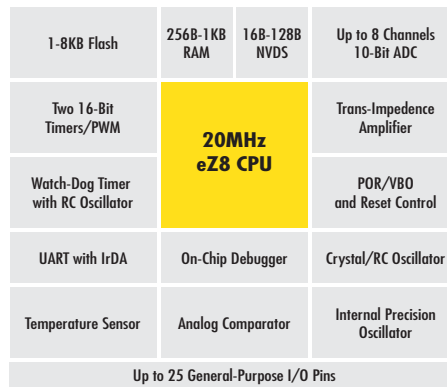
XP SERIES FEATURES

- 20MHz CPU core
- 1, 2, 4, or 8KB Flash memory
- Up to 1KB RAM
- Up to 128B NVDS
- 8-channel 10-bit ADC with internal reference and differential input
- Transamplifier/Operational amplifier
- Internal Precision Oscillator
- Analog comparator
- Temperature Sensor
- UART with IrDA
- Two 16-bit timer PWMs with capture/compare
- Single-pin debug with break and trap
- Single-pin flash programming
- Watch Dog Timer (WDT)
- Voltage Brown Out (VBO)
- Power On Reset (POR)
- 8-, 20-, and 28-pin SOIC, SSOP, QFN, and PDIP packages
- 2.7-3.6V operation
- Standard (0° to 70°C) and extended (-40° to 105°C) temperature range

REFERENCE TOOLS

- Reference designs
- Application notes

BLOCK DIAGRAM



ORDERING INFORMATION

Z8 Encore! XP® Series MCU Development Kits

Our low cost development tools contain everything you need to evaluate and design your next battery charging project. Each kit includes a Z8 Encore! XP series MCU development board, a USB debugging and programming cable, and our ZDS II Integrated Development Environment (IDE) with a full ANSI C-compiler.

FOR MORE INFORMATION

Visit us at www.zilog.com or call us at 1 (866) GO ZiLOG

Device	MEMORY			Operating Voltage	Temp. Range (°C)	Pin Count	Development Kit
	Flash (Bytes)	NVDS (Bytes)	SRAM (Bytes)				
Z8F042A	4K	128	1K	2.7-3.6V	-40° to 105°	28,20 8	Z8F04A28100KIT Z8F04A08100KIT
Z8F041A	4K	128	1K	2.7-3.6V	-40° to 105°	28,20 8	Z8F04A28100KIT Z8F04A08100KIT
Z8F022A	2K	64	512	2.7-3.6V	-40° to 105°	28,20 8	Z8F04A28100KIT Z8F04A08100KIT
Z8F021A	2K	64	512	2.7-3.6V	-40° to 105°	28,20 8	Z8F04A28100KIT Z8F04A08100KIT
Z8F012A	1K	16	256	2.7-3.6V	-40° to 105°	28,20 8	Z8F04A28100KIT Z8F04A08100KIT
Z8F011A	1K	16	256	2.7-3.6V	-40° to 105°	28,20 8	Z8F04A28100KIT Z8F04A08100KIT