



# Z8 Encore! XP<sup>®</sup> F08xA Series

High Performance Microcontrollers with Extended Peripherals



## OVERVIEW

ZiLOG's F08xA series MCUs are high performance 8-bit microcontrollers with an extensive set of on-chip peripherals. Containing a 20 MHz eZ8 CPU core, the F08xA series is based on ZiLOG's user-friendly register to register architecture. The high performance CPU is surrounded by peripherals such as a temperature sensor, transimpedance amplifier, and an internal precision oscillator for advanced application design and faster product development.

The F08xA series MCUs are supported by a development kit which contains everything you need to begin development and create your own Z8 Encore! XP<sup>®</sup> solution. A full-featured ANSI C-Compiler is included along with ZiLOG's ZDS II Integrated Development Environment (IDE). A singlepin debugger and programming interface simplifies code development and allows for easy in-circuit programming. Extend your development power with ZiLOG's Z8 Encore! XP<sup>®</sup> F08xA series microcontrollers today!

## FEATURES

- 20 MHz eZ8 CPU core yields 10 MIPS
- 8 KB of Flash with in-circuit programming capability
- 1 KB of RAM
- Up to 8-channel, 10-bit sigma-delta A/D converter with buffered differential input
- On-Chip temperature sensor
- Analog comparator
- Transimpedance (current sense) amplifier
- Internal precision oscillator
- Crystal oscillator with three power settings and external RC network option
- Full-duplex 9-bit UARTs with bus transceiver Driver Enable Control
- IrDA-compliant infrared encoder/decoders
- Two 16-bit timers with capture, compare, and PWM capability
- Watch-Dog Timer (WDT) with internal RC oscillator
- Up to 25 general purpose I/O pins
- Up to 18 interrupts with configurable priority
- On-Chip debugger
- Voltage brown-out protection (VBO) and Power-On Reset (POR)
- Programmable low battery detection (8-pin only)
- Oscillator fail detection
- 2.7 to 3.6 V operating voltage with 5 V tolerant inputs
- Available in 8-, 20-, and 28-pin packages
- Offered in standard (0 °C to 70 °C) and extended (-40 °C to 105 °C) temperature



# Z8 Encore! XP® F08xA Series

|                                    |                           |                                |
|------------------------------------|---------------------------|--------------------------------|
| 8 KB Flash                         | 1 KB RAM                  | Up to 8 Channels<br>10-bit ADC |
| Two 16-bit Timers/PWM              | <b>20 MHz<br/>eZ8 CPU</b> | Trans-Impedance Amplifier      |
| Watch-Dog Timer with RC Oscillator |                           | POR/VBO & Reset Control        |
| UARTs with IrDA                    | On-Chip Debugger          | Crystal/RC Oscillator          |
| Temperature Sensor                 | Analog Comparator         | Internal Precision Oscillator  |
| Up to 25 General-Purpose I/O Pins  |                           |                                |



## Z8 Encore! XP® F08xA Series MCU Development Kit Contents

### Hardware

- Z8 Encore! XP® F08xA Series Development Board
- Serial or USB Smart Cable
- 5 V DC Universal Power Supply

### Software

- ZDS II Integrated Development Environment (IDE)
- ANSI C-Compiler
- Sample Code

### Documentation/CD-ROM

- Development Kit Quick Start Guide
- Development Kit User Manual
- ZDS II - IDE User Manual
- eZ8 CPU User Manual
- Product Specifications
- Product Briefs
- Application Notes

| Device  | Memory        |              | Speed (MHz) | I/O Lines | 16-Bit Timers | 10-Bit A/D Channels | UART | Comparator | Other Features                      | Operating Voltage | Temp. Range (°C) | Pin Count | Development Kit                                  |
|---------|---------------|--------------|-------------|-----------|---------------|---------------------|------|------------|-------------------------------------|-------------------|------------------|-----------|--------------------------------------------------|
|         | Flash (Bytes) | SRAM (Bytes) |             |           |               |                     |      |            |                                     |                   |                  |           |                                                  |
| Z8F081A | 8K            | 1K           | 20          | 23        | 2             | -                   | 1    | 1          | Int. Prec. Oscillator               | 2.7 - 3.6 V       | -40° to 105°     | 8, 28, 20 | Z8F04A08100KITG (RoHS)<br>Z8F08A28100KITG (RoHS) |
| Z8F082A | 8K            | 1K           | 20          | 25        | 2             | 8                   | 1    | 1          | Temp. Sensor, Int. Prec. Oscillator | 2.7 - 3.6 V       | -40° to 125°     | 28, 20, 8 | Z8F04A08100KITG (RoHS)<br>Z8F08A28100KITG (RoHS) |

## Development Tool Ordering Information

- ZUSBSC00100ZACG (RoHS)    USB Smart Cable Accessory Kit  
 ZUSBOPTSC01ZACG (RoHS)    Opto-Isolated USB Smart Cable

Order your ZiLOG Development Kits at <http://www.zilog.com> to get your applications to market in record time.

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