



Z i L O G

Z8F242x Series



Advanced 20MHz 24KB Flash Microcontroller

PB011702-0803

Preliminary Product Brief

Product Block Diagram

20MHz eZ8 CPU 24KB Flash 2KB SRAM	12 Channel 10-bit ADC	
	3 to 4 16-bit Timers Capture/Compare/PWM	
	Watch-Dog Timer	POR/VBO & Reset Control
SPI, I ² C, Two UARTs with IrDA	On-Chip Debugger	Crystal/RC Oscillator
Up to 46 I/O Pins		

Overview

The Z8F242x series of devices are Flash microcontrollers based on ZiLOG's advanced eZ8 8-bit microprocessor core. The Z8 Encore![®] MCU family of devices sets a new standard for performance and on-chip peripherals.

The Z8F242x series features up to twelve channels of 10-bit A/D conversion for measuring analog signals.

These devices include four enhanced 16-bit timer blocks featuring PWMs and Capture and Compare.

Up to 24 vectored interrupts with programmable priorities provide increased application flexibility.

The new single-pin debugger and programming interface simplifies code development and allows for easy in-circuit programming.

Two full-duplex UARTs provide serial communications and IrDA encoding and decoding capability. SPI and I²C ports allow easy incorporation into any system.

Z8 Encore![®] MCU Features

- 20MHz ZiLOG eZ8 microprocessor core
- 24KB Flash program memory
- 2KB register RAM
- Up to twelve channels, 10-bit A/D conversion
- 3 or 4 enhanced 16-bit timer blocks with PWMs and Capture and Compare. The 40/44-pin packages feature only 3 timers. The fourth timer is available only in the 64- and 68-pin packages.
- I²C
- Serial Peripheral Interface
- Two full-duplex 9-bit UARTs with bus transceiver Driver Enable control
- Two IrDA-compliant infrared encoder/decoders
- Up to 46 available I/O pins
- 3-channel DMA controller
- On-chip debug with break and trap capability
- Single-pin Flash programming
- Watch-Dog Timer
- Selectable oscillator modes
 - External RC Networks (<4MHz)
 - Power saving low frequency crystals (32KHz to 1.0MHz)
 - Medium frequency crystals or resonators (0.5MHz to 10.0MHz)
 - High frequency crystals (8.0MHz to 20.0MHz)
- Up to 24 vectored interrupts

- Power-on reset and voltage brown-out
- 3.0 to 3.6 operating voltage with 5V-tolerant inputs
- Operating temperatures: Standard (0° to 70°C) and Extended (-40° to +105°C)
- 40-, 44-, 64- and 68-pin packages

eZ8 Microprocessor Features

- New instructions for improved performance including BIT, BSWAP, BTJ, CPC, LDC, LDCI, LEA, MULT, and SRL
- New instructions support 12-bit linear addressing of the Register File
- Compatible with existing Z8[®] code
- Up to 10 MIPS operation
- C-Compiler friendly
- 2-9 clock cycles per instruction

Z8 Encore![®] Evaluation Kit

The Z8 Encore![®] Evaluation Kit includes the following:

Hardware

- Z8 Encore![®] Evaluation board
- Smart cable
- 5VDC power supply

Software

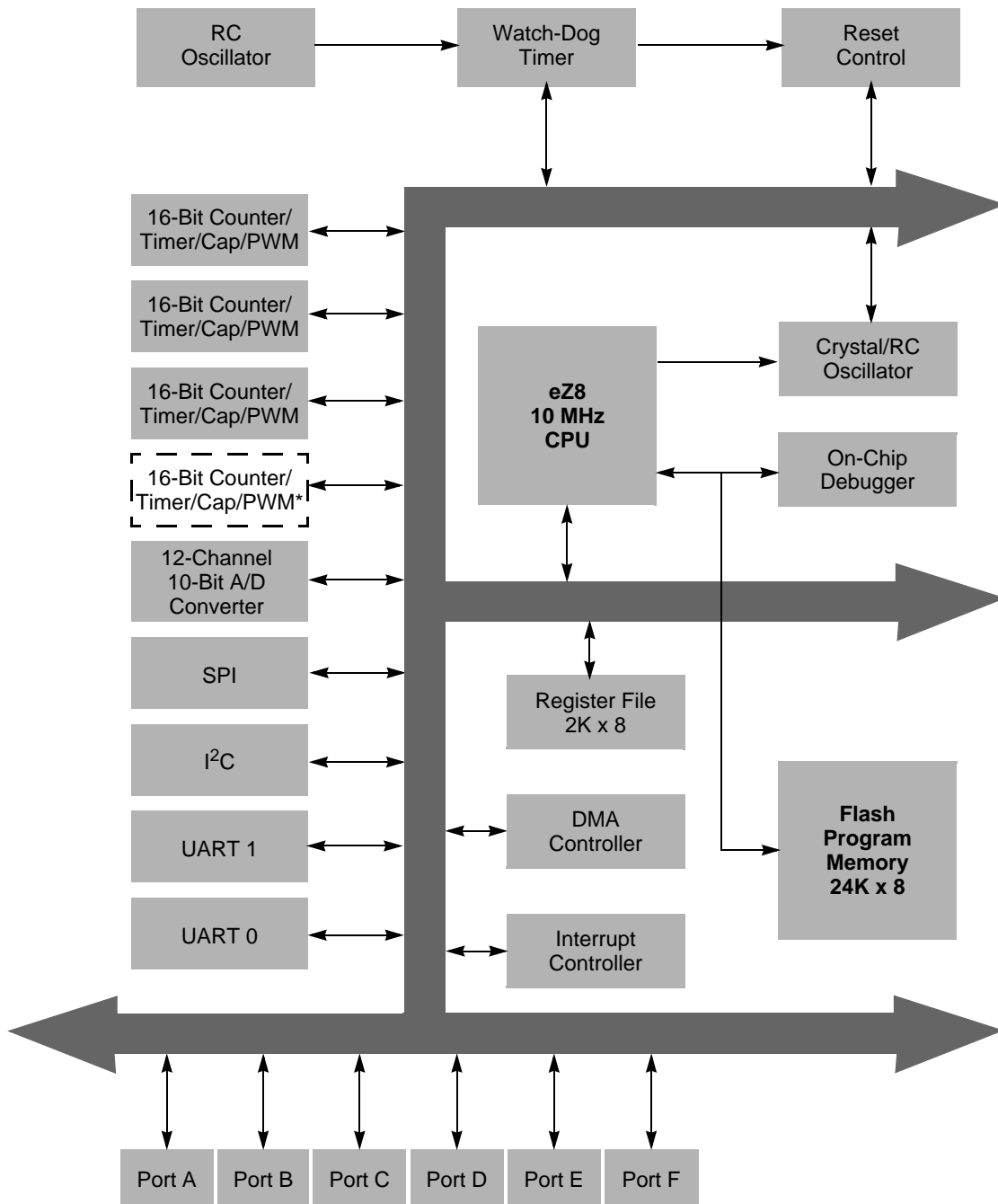
- ZDS II - Z8 Encore![®] IDE with ANSI C-Compiler
- Sample code

Documentation

- Quick Start Guide
- Registration card
- Z8 Encore![®] technical documentation (on CD-ROM)
 - Evaluation Kit User Manual
 - ZDS II - IDE User Manual
 - eZ8 CPU User Manual
 - Product specifications
 - Product briefs
 - Application notes
 - Programmer's Reference Sheet
 - Flyer
 - Selector guide

Architecture

Figure 1 illustrates the Z8F242x block diagram.



* The 40- and 44-pin packages feature only 3 timers. The fourth timer is unavailable.

Figure 1. Z8F242x Block Diagram



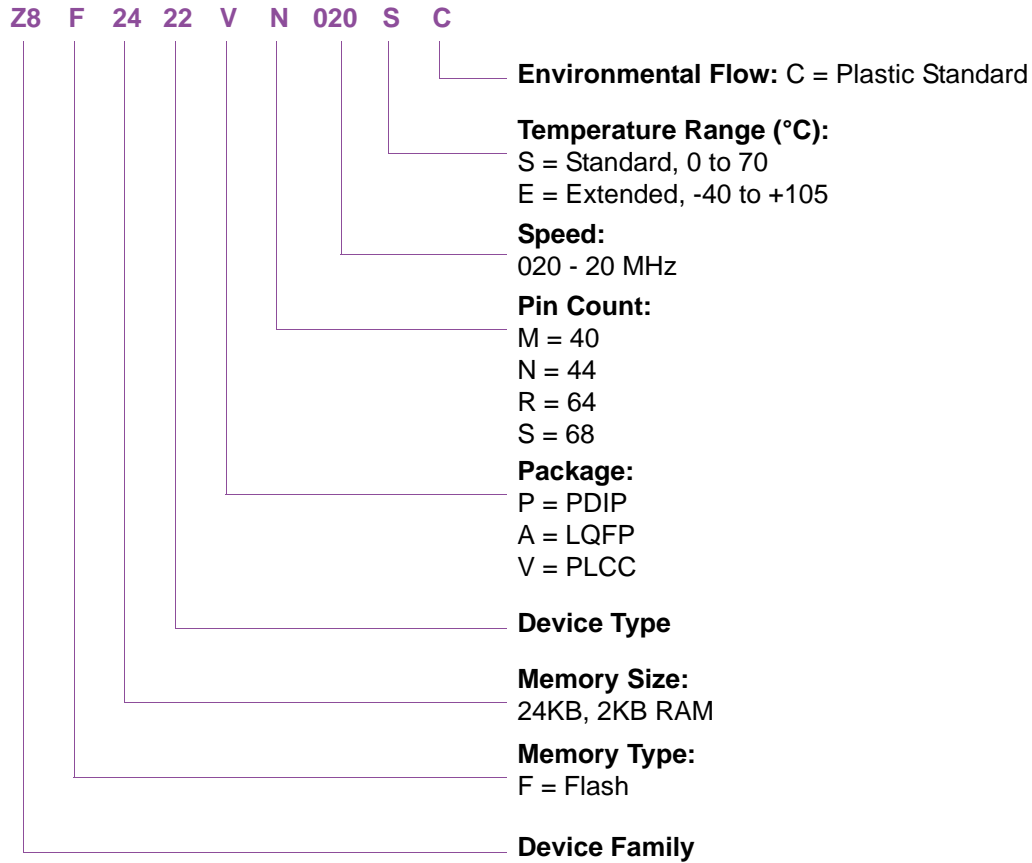
Ordering Information

Order the Z8F242x series from ZiLOG, referencing the following part numbers. For more information regarding ordering, please consult your local

ZiLOG sales office. The ZiLOG website at www.zilog.com lists all regional offices, as well as additional Z8 Encore! product information.

Part Number	Flash	RAM	I/O Lines	Interrupts	16-Bit Timer with PWM	10-Bit A/D Channels	I ² C	SPI	UARTs with IrDA	Description
Standard Temperature: 0° to 70°C										
Z8F2421PM020SC	24KB	2KB	31	23	3	8	1	1	2	PDIP 40-pin package
Z8F2421AN020SC	24KB	2KB	31	23	3	8	1	1	2	LQFP 44-pin package
Z8F2421VN020SC	24KB	2KB	31	23	3	8	1	1	2	PLCC 44-pin package
Z8F2422AR020SC	24KB	2KB	46	24	4	12	1	1	2	LQFP 64-pin package
Z8F2422VS020SC	24KB	2KB	46	24	4	12	1	1	2	PLCC 68-pin package
Extended Temperature: -40° to 105°C										
Z8F2421PM020EC	24KB	2KB	31	23	3	8	1	1	2	PDIP 40-pin package
Z8F2421AN020EC	24KB	2KB	31	23	3	8	1	1	2	LQFP 44-pin package
Z8F2421VN020EC	24KB	2KB	31	23	3	8	1	1	2	PLCC 44-pin package
Z8F2422AR020EC	24KB	2KB	46	24	4	12	1	1	2	LQFP 64-pin package
Z8F2422VS020EC	24KB	2KB	46	24	4	12	1	1	2	PLCC 68-pin package
Z8F64200100KIT										Evaluation Kit

Part Number Suffix Designations





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