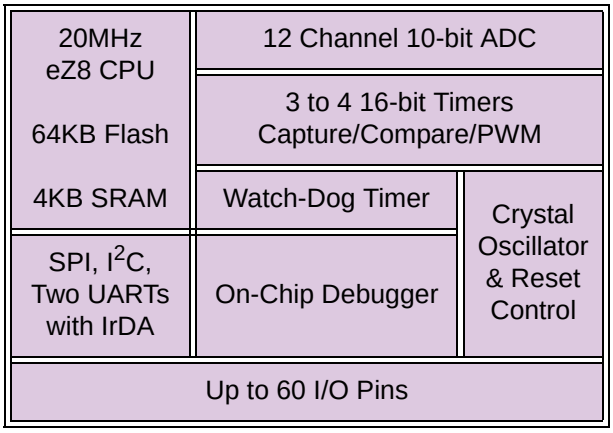
Z8F640x Series

Advanced 20MHz 64KB Flash Microcontroller

PB009511-0903

Product Brief

Product Block Diagram



Overview

The Z8F640x 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 Z8F640x series features 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 I^2C ports allow easy incorporation into any system.

Z8 Encore!® MCU Features

- New 20MHz ZiLOG eZ8 microprocessor core
- 64KB Flash program memory
- 4KB 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 44-pin packages feature only 3 timers. The fourth timer is available only in the 64- and 68-pin packages.
- Full-duplex SPI, I^2C, and two UART ports with IrDA encoder/decoders
- 31, 46 and 60 available I/O pins
- 3-channel DMA controller
- On-chip debug with break and trap capability
- Single-pin Flash programming
- Watch-Dog Timer
- 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- and 80-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!® Development Kit

The Z8 Encore!® Development Kit includes the following:

Hardware

- Z8 Encore!® evaluation board
- RS-232 DB9 serial cable
- 9VDC universal power supply
- Z8 Encore!® target interface module

Software

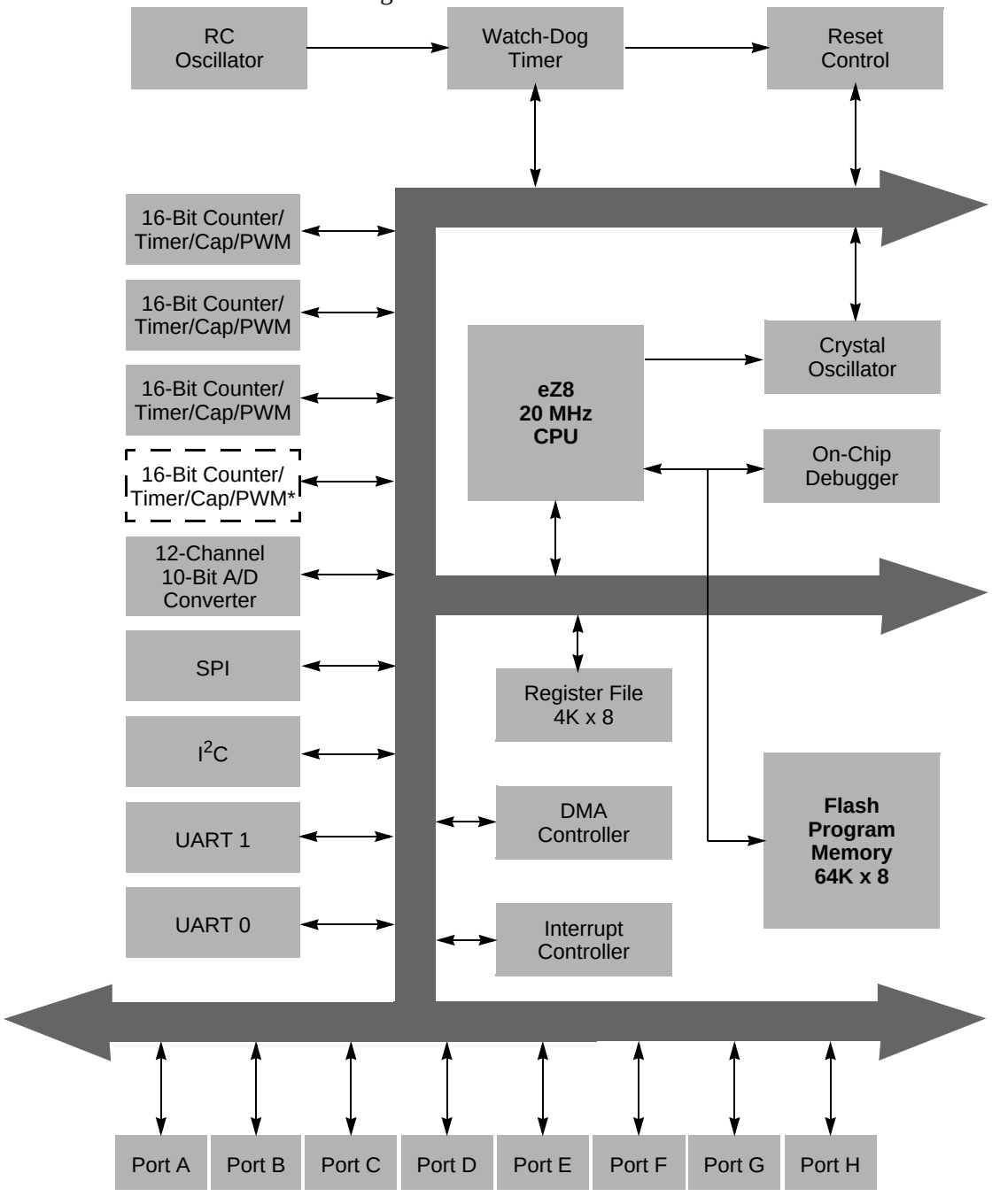
- ZDS II - Z8 Encore!® IDE with ANSI C-Compiler
- Sample code

Documentation

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

Architecture

Figure 1 illustrates the Z8F640x block diagram.



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

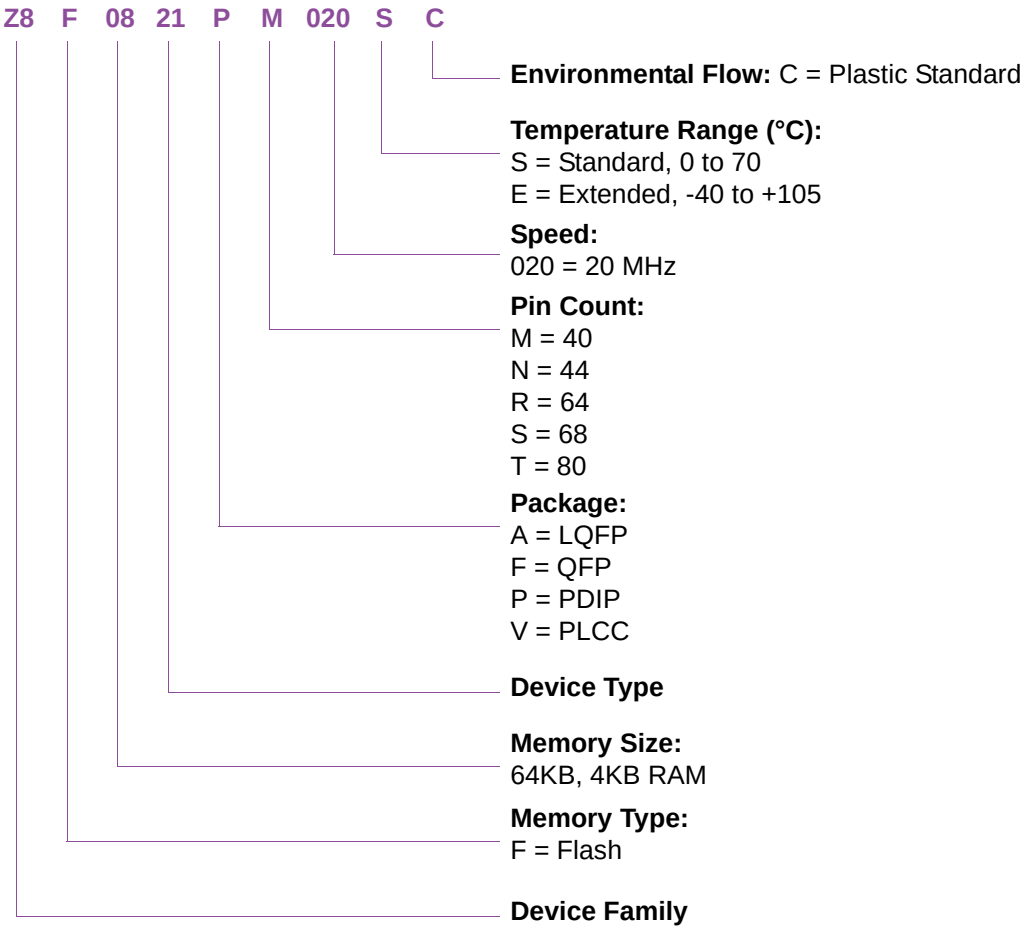
Figure 1. Z8F640x Block Diagram

Ordering Information

Order the Z8F640x 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 Timers with PWM	10-Bit A/D Channels	I^2C	SPI	UARTs with IrDA	Description
Standard Temperature: 0° to 70°C										
Z8F6401PM020SC	64KB	4KB	31	23	3	8	1	1	2	PDIP 40-pin package
Z8F6401AN020SC	64KB	4KB	31	23	3	8	1	1	2	LQFP 44-pin package
Z8F6401VN020SC	64KB	4KB	31	23	3	8	1	1	2	PLCC 44-pin package
Z8F6402AR020SC	64KB	4KB	46	24	4	12	1	1	2	LQFP 64-pin package
Z8F6402VS020SC	64KB	4KB	46	24	4	12	1	1	2	PLCC 68-pin package
Z8F6403FT020SC	64KB	4KB	60	24	4	12	1	1	2	QFP 80-pin package
Extended Temperature: -40° to +105°C										
Z846401PM020EC	64KB	4KB	31	23	3	8	1	1	2	PDIP 40-pin package
Z8F6401AN020EC	64KB	4KB	31	23	3	8	1	1	2	LQFP 44-pin package
Z8F6401VN020EC	64KB	4KB	31	23	3	8	1	1	2	PLCC 44-pin package
Z8F6402AR020EC	64KB	4KB	46	24	4	12	1	1	2	LQFP 64-pin package
Z8F6402VS020EC	64KB	4KB	46	24	4	12	1	1	2	PLCC 68-pin package
Z8F6403FT020EC	64KB	4KB	60	24	4	12	1	1	2	QFP 80-pin package
Z8ENCORE000ZCO										Development Kit

Part Number Suffix Designations



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