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What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "<u>Embedded - Microcontrollers</u>"

Details	
Product Status	Active
Core Processor	eZ8
Core Size	8-Bit
Speed	20MHz
Connectivity	IrDA, UART/USART
Peripherals	Brown-out Detect/Reset, LED, LVD, POR, PWM, WDT
Number of I/O	17
Program Memory Size	4KB (4K x 8)
Program Memory Type	FLASH
EEPROM Size	128 x 8
RAM Size	1K x 8
Voltage - Supply (Vcc/Vdd)	2.7V ~ 3.6V
Data Converters	-
Oscillator Type	Internal
Operating Temperature	0°C ~ 70°C (TA)
Mounting Type	Surface Mount
Package / Case	20-SOIC (0.295", 7.50mm Width)
Supplier Device Package	20-SOIC
Purchase URL	https://www.e-xfl.com/product-detail/zilog/z8f041ash020sg2156

## **High-Performance 8-Bit Microcontrollers**

# Z8 Encore! XP® F082A Series

#### **Product Brief**

PB013612-0508

# **Product Block Diagram**

1 KB, 2 KB, 4 KB, or 8 KB Flash	256 B, 512 B, or 1 KB RAM	Up to 8 Channels 10-Bit ADC							
Two 16-Bit Timers/PWM	20 MHz	Up to 128 B NVDS*							
Watchdog Timer with RC Oscillator	eZ8 <sup>™</sup> CPU	POR/VBO and Reset Control							
UART with IrDA	On-Chip Debugger	Crystal/RC Oscillator							
Temperature Sensor	Analog Comparator	Internal Precision Oscillator							
6 to 25 General-Purpose I/O Pins									

<sup>\*</sup> The NVDS feature is not available for devices with 8 KB Flash.

#### Overview

Zilog's Z8 Encore! XP® F082A Series Flash Microcontrollers are based on Zilog's 8-bit eZ8 CPU core. The Z8 Encore! XP F082A Series Flash Microcontrollers set a new standard for performance and on-chip peripherals.

This Series features 1 KB, 2 KB, 4 KB or 8 KB of non-volatile Flash memory with read/write/erase capability and 256 B to 1 KB of register RAM.

The Z8 Encore! XP F082A Series Flash Microcontrollers feature an 8-channel, 10-bit Analog-to-Digital Converter (ADC). The ADC accepts inputs from eight different analog input pins in both single-ended and differential modes. The Low-Power Operational Amplifier (LPO) is a general-purpose amplifier for current sense applications. An on-

chip temperature sensor allows die temperature measurement over a range of -40 °C to +105 °C.

These devices include two enhanced 16-bit timers with capture, compare, and PWM capabilities. Up to 20 vectored interrupts with three levels of programmable priorities provide increased application flexibility.

The Z8 Encore! XP F082A Series features an onchip Internal Precision Oscillator (IPO). The IPO (5 MHz/32 kHz) is a trimmed clock source that requires no external components.

The new single-pin On-Chip Debugger (OCD) and programming interface simplifies code development and allows easy in-circuit programming.

The full-duplex Universal Asynchronous Receiver/ Transmitter (UART) provides serial communications and Infrared Data Association (IrDA) encoding and decoding capability. The UART Baud Rate Generator (BRG) can be configured and used as a basic 16-bit timer.

#### **Features**

Key features of Z8 Encore! XP F082A Series include:

- 20 MHz eZ8 CPU core
- 1 KB, 2 KB, 4 KB or 8 KB Flash memory with in-circuit programming capability
- 256 B, 512 B or 1 KB register RAM
- Up to 128 B Non-Volatile Data Storage (NVDS)
- Up to 8 channels 10-bit ADC
- On-chip Temperature Sensor
- On-chip Analog Comparator

- On-chip Low-Power Operational Amplifier
- Full-duplex 9-bit UART with bus transceiver Driver Enable Control
- IrDA-compliant infrared encoder/decoders
- Two 16-bit timers with capture, compare, and PWM capabilities
- Watchdog Timer (WDT) with internal RC Oscillator
- 6 to 25 General-Purpose I/O pins depending upon package
- Up to 20 interrupts with configurable priority
- On-Chip Debugger
- Voltage Brownout Protection (VBO)
- Power-On Reset (POR)
- Internal Precision Oscillator (5 MHz/32 kHz)
- Crystal oscillator with three power settings and external RC network option
- 2.7 V to 3.6 V operating voltage with 5 V-tolerant inputs
- 8-pin, 20-pin, and 28-pin packages
- 0 °C to +70 °C (standard temperature) and -40 °C to +105 °C (extended temperature) operating ranges

# eZ8<sup>™</sup> CPU Features

Zilog's latest 8-bit eZ8 CPU features include:

- 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<sup>®</sup> code
- Up to 10 MIPS operation
- C-Compiler friendly
- 2 to 9 clock cycles per instruction

# **Development Kit**

The Z8 Encore! XP® F082A Series development kit includes:

#### Hardware

- Z8 Encore! XP F082A Series Development Board
- Smart Cable for PC to Z8 Encore! XP F082A Series Development Board (20-pin and 28-pin kits)
- 5 V DC power supply

#### Software on CD-ROM

- ZDS II–Z8 Encore!<sup>®</sup> IDE with ANSI C-Compiler, available for free download at www.zilog.com
- Sample Code
- Document Browser
- Acrobat Reader<sup>®</sup>

#### **Documentation**

- Quick Start Guide
- Z8 Encore! XP F082A Series technical documentation (on CD-ROM):
  - Development Kit User Manual
  - ZDS II IDE User Manual
  - eZ8<sup>TM</sup> CPU User Manual
  - Product Specification
  - Product Brief

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## **Architecture**

Figure 1 displays the Z8 Encore! XP® F082A Series architecture.

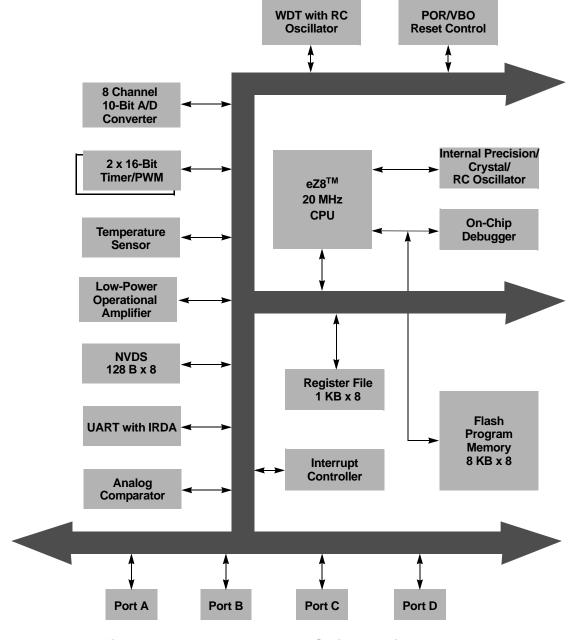


Figure 1. Z8 Encore! XP F082A Series Architecture

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# **Ordering Information**

You can order the Z8 Encore! XP<sup>®</sup> F082A Series from Zilog<sup>®</sup>, using the following part numbers. For more information regarding ordering, contact your local Zilog sales office. The Zilog website (<u>www.zilog.com</u>) lists all regional offices and provides additional Z8 Encore! XP product information.

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Part Number	Flash	RAM	NVDS	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	<b>UART</b> with IrDA	Comparator	<b>Temperature Sensor</b>	Description
Z8 Encore! XP F082A S	eries wi	th 8 KB F	Flash,	10-Bit	Anal	og-t	o-Di	gita	l Co	nve	erter
Standard Temperature: 0 °C to +70 °C											
Z8F082APB020SC	8 KB	1 KB	0	6	14	2	4	1	1	1	PDIP 8-pin package
Z8F082AQB020SC	8 KB	1 KB	0	6	14	2	4	1	1	1	QFN 8-pin package
Z8F082ASB020SC	8 KB	1 KB	0	6	14	2	4	1	1	1	SOIC 8-pin package
Z8F082ASH020SC	8 KB	1 KB	0	17	20	2	7	1	1	1	SOIC 20-pin package
Z8F082AHH020SC	8 KB	1 KB	0	17	20	2	7	1	1	1	SSOP 20-pin package
Z8F082APH020SC	8 KB	1 KB	0	17	20	2	7	1	1	1	PDIP 20-pin package
Z8F082ASJ020SC	8 KB	1 KB	0	23	20	2	8	1	1	1	SOIC 28-pin package
Z8F082AHJ020SC	8 KB	1 KB	0	23	20	2	8	1	1	1	SSOP 28-pin package
Z8F082APJ020SC	8 KB	1 KB	0	23	20	2	8	1	1	1	PDIP 28-pin package
Extended Temperature	: –40 °C	to +105 °	С								
Z8F082APB020EC	8 KB	1 KB	0	6	14	2	4	1	1	1	PDIP 8-pin package
Z8F082AQB020EC	8 KB	1 KB	0	6	14	2	4	1	1	1	QFN 8-pin package
Z8F082ASB020EC	8 KB	1 KB	0	6	14	2	4	1	1	1	SOIC 8-pin package
Z8F082ASH020EC	8 KB	1 KB	0	17	20	2	7	1	1	1	SOIC 20-pin package
Z8F082AHH020EC	8 KB	1 KB	0	17	20	2	7	1	1	1	SSOP 20-pin package
Z8F082APH020EC	8 KB	1 KB	0	17	20	2	7	1	1	1	PDIP 20-pin package
Z8F082ASJ020EC	8 KB	1 KB	0	23	20	2	8	1	1	1	SOIC 28-pin package
Z8F082AHJ020EC	8 KB	1 KB	0	23	20	2	8	1	1	1	SSOP 28-pin package
Z8F082APJ020EC	8 KB	1 KB	0	23	20	2	8	1	1	1	PDIP 28-pin package
Note: Replace C with G for	Lead-Fre	e Packagi	ng								

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Part Number	Flash	RAM	NVDS	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	<b>UART</b> with IrDA	Comparator	<b>Temperature Sensor</b>	Description
Z8 Encore! XP F082A	Series wit	h 8 KB I	Flash								
Standard Temperature: 0 °C to +70 °C											
Z8F081APB020SC	8 KB	1 KB	0	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F081AQB020SC	8 KB	1 KB	0	6	13	2	0	1	1	0	QFN 8-pin package
Z8F081ASB020SC	8 KB	1 KB	0	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F081ASH020SC	8 KB	1 KB	0	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F081AHH020SC	8 KB	1 KB	0	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F081APH020SC	8 KB	1 KB	0	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F081ASJ020SC	8 KB	1 KB	0	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F081AHJ020SC	8 KB	1 KB	0	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F081APJ020SC	8 KB	1 KB	0	25	19	2	0	1	1	0	PDIP 28-pin package
Extended Temperatu	re: –40 °C 1	to +105 °	,C								
Z8F081APB020EC	8 KB	1 KB	0	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F081AQB020EC	8 KB	1 KB	0	6	13	2	0	1	1	0	QFN 8-pin package
Z8F081ASB020EC	8 KB	1 KB	0	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F081ASH020EC	8 KB	1 KB	0	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F081AHH020EC	8 KB	1 KB	0	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F081APH020EC	8 KB	1 KB	0	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F081ASJ020EC	8 KB	1 KB	0	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F081AHJ020EC	8 KB	1 KB	0	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F081APJ020EC	8 KB	1 KB	0	25	19	2	0	1	1	0	PDIP 28-pin package
Note: Replace C with G	for Lead-Free	e Packagi	ng								

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Part Number	Flash	RAM	NVDS	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	<b>UART</b> with IrDA	Comparator	<b>Temperature Sensor</b>	Description
Z8 Encore! XP 8K and	4K Series	s with 4	KB Flas	h							
Standard Temperature	e: 0 °C to +	⊦70 °C									
Z8F041APB020SC	4 KB	1 KB	128 B	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F041AQB020SC	4 KB	1 KB	128 B	6	13	2	0	1	1	0	QFN 8-pin package
Z8F041ASB020SC	4 KB	1 KB	128 B	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F041ASH020SC	4 KB	1 KB	128 B	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F041AHH020SC	4 KB	1 KB	128 B	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F041APH020SC	4 KB	1 KB	128 B	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F041ASJ020SC	4 KB	1 KB	128 B	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F041AHJ020SC	4 KB	1 KB	128 B	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F041APJ020SC	4 KB	1 KB	128 B	25	19	2	0	1	1	0	PDIP 28-pin package
Extended Temperature	e: –40 °C 1	to +105	°C								_
Z8F041APB020EC	4 KB	1 KB	128 B	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F041AQB020EC	4 KB	1 KB	128 B	6	13	2	0	1	1	0	QFN 8-pin package
Z8F041ASB020EC	4 KB	1 KB	128 B	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F041ASH020EC	4 KB	1 KB	128 B	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F041AHH020EC	4 KB	1 KB	128 B	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F041APH020EC	4 KB	1 KB	128 B	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F041ASJ020EC	4 KB	1 KB	128 B	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F041AHJ020EC	4 KB	1 KB	128 B	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F041APJ020EC	4 KB	1 KB	128 B	25	19	2	0	1	1	0	PDIP 28-pin package
Note: Replace C with G fo	or Lead-Free	e Packag	ing								

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Part Number	Flash	RAM	NVDS	/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	UART with IrDA	Comparator	Temperature Sensor	Description	
Z8 Encore! XP F082A										<u> </u>	_	
Standard Temperature: 0 °C to +70 °C												
Z8F022APB020SC	2 KB	512 B	64 B	6	14	2	4	1	1	1	PDIP 8-pin package	
Z8F022AQB020SC	2 KB	512 B	64 B	6	14	2	4	1	1	1	QFN 8-pin package	
Z8F022ASB020SC	2 KB	512 B	64 B	6	14	2	4	1	1	1	SOIC 8-pin package	
Z8F022ASH020SC	2 KB	512 B	64 B	17	20	2	7	1	1	1	SOIC 20-pin package	
Z8F022AHH020SC	2 KB	512 B	64 B	17	20	2	7	1	1	1	SSOP 20-pin package	
Z8F022APH020SC	2 KB	512 B	64 B	17	20	2	7	1	1	1	PDIP 20-pin package	
Z8F022ASJ020SC	2 KB	512 B	64 B	23	20	2	8	1	1	1	SOIC 28-pin package	
Z8F022AHJ020SC	2 KB	512 B	64 B	23	20	2	8	1	1	1	SSOP 28-pin package	
Z8F022APJ020SC	2 KB	512 B	64 B	23	20	2	8	1	1	1	PDIP 28-pin package	
Extended Temperatur	e: –40 °C	to +105 °	,C									
Z8F022ASB020EC	2 KB	512 B	64 B	6	14	2	4	1	1	1	SOIC 8-pin package	
Z8F022AQB020EC	2 KB	512 B	64 B	6	14	2	4	1	1	1	QFN 8-pin package	
Z8F022APB020EC	2 KB	512 B	64 B	6	14	2	4	1	1	1	PDIP 8-pin package	
Z8F022ASH020EC	2 KB	512 B	64 B	17	20	2	7	1	1	1	SOIC 20-pin package	
Z8F022AHH020EC	2 KB	512 B	64 B	17	20	2	7	1	1	1	SSOP 20-pin package	
Z8F022APH020EC	2 KB	512 B	64 B	17	20	2	7	1	1	1	PDIP 20-pin package	
Z8F022ASJ020EC	2 KB	512 B	64 B	23	20	2	8	1	1	1	SOIC 28-pin package	
Z8F022AHJ020EC	2 KB	512 B	64 B	23	20	2	8	1	1	1	SSOP 28-pin package	
Z8F022APJ020EC	2 KB	512 B	64 B	23	20	2	8	1	1	1	PDIP 28-pin package	
Note: Replace C with G for	or Lead-Fre	e Packagi	ng									

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Part Number				es	pts	16-Bit Timers w/PWM	A/D Channels	UART with IrDA	rator	Temperature Sensor	ption
Part N	Flash	RAM	NVDS	//O Lines	Interrupts	6-Bit	10-Bit A/D	JART	Comparator	<b>Fempe</b>	Description
Z8 Encore! XP F082A				_	_			_			
Standard Temperature: 0 °C to +70 °C											
Z8F021APB020SC	2 KB	512 B	64 B	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F021AQB020SC	2 KB	512 B	64 B	6	13	2	0	1	1	0	QFN 8-pin package
Z8F021ASB020SC	2 KB	512 B	64 B	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F021ASH020SC	2 KB	512 B	64 B	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F021AHH020SC	2 KB	512 B	64 B	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F021APH020SC	2 KB	512 B	64 B	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F021ASJ020SC	2 KB	512 B	64 B	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F021AHJ020SC	2 KB	512 B	64 B	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F021APJ020SC	2 KB	512 B	64 B	25	19	2	0	1	1	0	PDIP 28-pin package
Extended Temperature	e: –40 °C	to +105 '	,C								
Z8F021APB020EC	2 KB	512 B	64 B	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F021AQB020EC	2 KB	512 B	64 B	6	13	2	0	1	1	0	QFN 8-pin package
Z8F021ASB020EC	2 KB	512 B	64 B	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F021ASH020EC	2 KB	512 B	64 B	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F021AHH020EC	2 KB	512 B	64 B	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F021APH020EC	2 KB	512 B	64 B	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F021ASJ020EC	2 KB	512 B	64 B	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F021AHJ020EC	2 KB	512 B	64 B	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F021APJ020EC	2 KB	512 B	64 B	25	19	2	0	1	1	0	PDIP 28-pin package
Note: Replace C with G for	or Lead-Fre	e Packagi	ng								

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						_						
Part Number	Flash	RAM	NVDS	/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	UART with IrDA	Comparator	<b>Temperature Sensor</b>	Description	
Z8 Encore! XP F082A										•	_	
Standard Temperature: 0 °C to +70 °C												
Z8F012APB020SC	1 KB	256 B	16 B	6	14	2	4	1	1	1	PDIP 8-pin package	
Z8F012AQB020SC	1 KB	256 B	16 B	6	14	2	4	1	1	1	QFN 8-pin package	
Z8F012ASB020SC	1 KB	256 B	16 B	6	14	2	4	1	1	1	SOIC 8-pin package	
Z8F012ASH020SC	1 KB	256 B	16 B	17	20	2	7	1	1	1	SOIC 20-pin package	
Z8F012AHH020SC	1 KB	256 B	16 B	17	20	2	7	1	1	1	SSOP 20-pin package	
Z8F012APH020SC	1 KB	256 B	16 B	17	20	2	7	1	1	1	PDIP 20-pin package	
Z8F012ASJ020SC	1 KB	256 B	16 B	23	20	2	8	1	1	1	SOIC 28-pin package	
Z8F012AHJ020SC	1 KB	256 B	16 B	23	20	2	8	1	1	1	SSOP 28-pin package	
Z8F012APJ020SC	1 KB	256 B	16 B	23	20	2	8	1	1	1	PDIP 28-pin package	
<b>Extended Temperatur</b>	e: –40 °C	to +105 °	°C									
Z8F012APB020EC	1 KB	256 B	16 B	6	14	2	4	1	1	1	PDIP 8-pin package	
Z8F012AQB020EC	1 KB	256 B	16 B	6	14	2	4	1	1	1	QFN 8-pin package	
Z8F012ASB020EC	1 KB	256 B	16 B	6	14	2	4	1	1	1	SOIC 8-pin package	
Z8F012ASH020EC	1 KB	256 B	16 B	17	20	2	7	1	1	1	SOIC 20-pin package	
Z8F012AHH020EC	1 KB	256 B	16 B	17	20	2	7	1	1	1	SSOP 20-pin package	
Z8F012APH020EC	1 KB	256 B	16 B	17	20	2	7	1	1	1	PDIP 20-pin package	
Z8F012ASJ020EC	1 KB	256 B	16 B	23	20	2	8	1	1	1	SOIC 28-pin package	
Z8F012AHJ020EC	1 KB	256 B	16 B	23	20	2	8	1	1	1	SSOP 28-pin package	
Z8F012APJ020EC	1 KB	256 B	16 B	23	20	2	8	1	1	1	PDIP 28-pin package	
Note: Replace C with G for	or Lead-Fre	e Packagi	ng									

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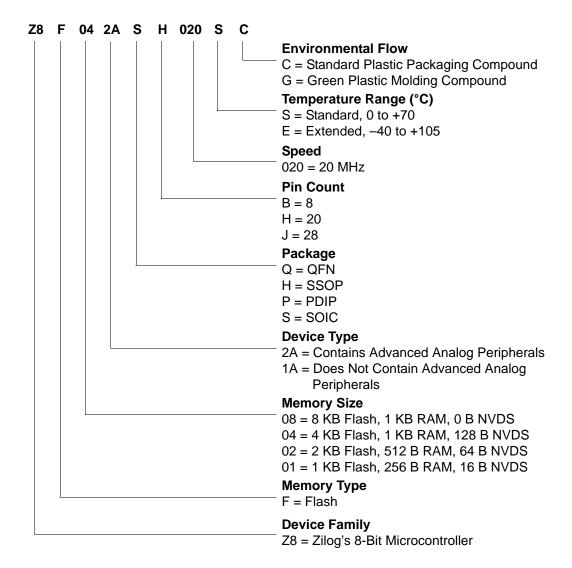
,						_					
Part Number	Flash	RAM	NVDS	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	UART with IrDA	Comparator	<b>Temperature Sensor</b>	Description
Z8 Encore! XP F082A	Series wi	th 1 KB I	Flash								
Standard Temperature: 0 °C to +70 °C											
Z8F011APB020SC	1 KB	256 B	16 B	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F011AQB020SC	1 KB	256 B	16 B	6	13	2	0	1	1	0	QFN 8-pin package
Z8F011ASB020SC	1 KB	256 B	16 B	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F011ASH020SC	1 KB	256 B	16 B	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F011AHH020SC	1 KB	256 B	16 B	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F011APH020SC	1 KB	256 B	16 B	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F011ASJ020SC	1 KB	256 B	16 B	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F011AHJ020SC	1 KB	256 B	16 B	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F011APJ020SC	1 KB	256 B	16 B	25	19	2	0	1	1	0	PDIP 28-pin package
Extended Temperatur	e: –40 °C	to +105 °	,C								
Z8F011APB020EC	1 KB	256 B	16 B	6	13	2	0	1	1	0	PDIP 8-pin package
Z8F011AQB020EC	1 KB	256 B	16 B	6	13	2	0	1	1	0	QFN 8-pin package
Z8F011ASB020EC	1 KB	256 B	16 B	6	13	2	0	1	1	0	SOIC 8-pin package
Z8F011ASH020EC	1 KB	256 B	16 B	17	19	2	0	1	1	0	SOIC 20-pin package
Z8F011AHH020EC	1 KB	256 B	16 B	17	19	2	0	1	1	0	SSOP 20-pin package
Z8F011APH020EC	1 KB	256 B	16 B	17	19	2	0	1	1	0	PDIP 20-pin package
Z8F011ASJ020EC	1 KB	256 B	16 B	25	19	2	0	1	1	0	SOIC 28-pin package
Z8F011AHJ020EC	1 KB	256 B	16 B	25	19	2	0	1	1	0	SSOP 28-pin package
Z8F011APJ020EC	1 KB	256 B	16 B	25	19	2	0	1	1	0	PDIP 28-pin package
Note: Replace C with G f	or Lead-Fre	e Packagi	ng								

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Part Number	Flash	RAM	NVDS	I/O Lines	Interrupts	16-Bit Timers w/PWM	10-Bit A/D Channels	UART with IrDA	Comparator	Temperature Sensor	Description			
Z8 Encore! XP F082A Ser	ries D	evelopme	ent Kit											
Z8F08A28100KITG		Z8 Enco	re! XP	F082	\ 28-I	Pin [	Deve	lopi	men	t Ki	t			
Z8F04A08100KITG		Z8 Enco	re! XP	F042 <i>F</i>	\ Ser	ies 8	-Pir	) De	velo	pm	ent Kit	t		
ZUSBSC00100ZACG		USB Sm	art Cab	ole Ac	cess	ory l	Kit							
ZUSBOPTSC01ZACG		USB Opto-isolated Smart Cable Accessory Kit												
ZENETSC0100ZACG		Ethernet	Smart	Cabl	e Acc	cess	ory	Kit						

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### **Part Number Suffix Designations**



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**Warning:** DO NOT USE IN LIFE SUPPORT

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#### As used herein

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