ZGATE

Z8051 DESIGN WITH FREEDOM

ZMOTION®

eZ80 Acclaim!® Flash Microcontrollers

eZ80 AcclaimPlus!™ Ethernet ASSP

Z8 Encore!® Flash Microcontrollers

Z8 Encore!XP® Flash Microcontrollers

Z8 Encore! FMC™ Flash Microcontrollers

Z Flash MC™ Microcontrollers

NEO® 16 BIT FLASH

MINI-V™

ZAURA™

zilog® Educational Platform

Design with Freedom

PRODUCT LINE CARD | 2013

zilog® Embedded in Life

An IXYS Company

A Global Supplier of Innovative Embedded Control Solutions

A Silicon Valley pioneer, Zilog is a trusted supplier of application-specific embedded system-on-chip (SoC) solutions for the industrial and consumer markets. Zilog is a wholly-owned subsidiary of IXYS Corporation and is headquartered in Milpitas, California.

From its roots as an award-winning architect in the microprocessor and microcontroller industry, Zilog has evolved its expertise beyond core silicon to include SoCs, single-board computers, application-specific software stacks and development tools that allow embedded designers quick time to market in such fields as energy management, monitoring and metering, motor control, and motion detection.

Zilog's Quality Culture

Zilog's philosophy toward quality has been to consistently focus on continuous product improvement and the optimization of processes associated with the design, manufacture, test and delivery of products that conform to all established requirements for total customer satisfaction. It has been a Zilog tradition that the customer is the main driving force in our company-wide goal to achieve the highest quality possible.

ZGATE™ Embedded Security

ZGATE Embedded Security combines multiple world-class technologies for safer, faster and better deployment of your embedded communication applications. Incorporating the eZ80F91 MCU and Zilog's full-featured TCP/IP stack with a world-class embedded firewall produces technology that provides the tools to design, build and bring your communication product to market.

The eZ80F91 MCU is the industry's first MCU featuring a high-performance 8-bit microcontroller with an integrated 10/100 BaseT EMAC. It is a power-efficient, optimized pipeline architecture microcontroller with a maximum operating speed of 50 MHz. Offering on-chip Flash Memory, SRAM, Ethernet MAC, and rich peripherals, the eZ80F91 is well-suited for industrial, communication, automation, security, and embedded Internet applications.

ZGATE Embedded Security

Device	Firewall Package	CPU Core	Max. Speed (MHz)	Flash (KB)	External Memory	SRAM (KB)	Ethernet MAC	GPIO	16-Bit Timers	RTC	WDT	POR/ VBO	Peripheral Interfaces	Operating Range	Package
EZ80F91GAZ0AEG	Premium	eZ80®	50	256	16 MB	16	10/100	32	4	√	√	POR/ VBO	2 UARTs, SPI, I2C, IRDA	3.0-3.6V	144-pin LQFP
EZ80F91GAZ0BEG	Extended	eZ80®	50	256	16 MB	16	10/100	32	4	√	√	POR/ VBO	2 UARTs, SPI, I2C, IRDA	3.0-3.6V	144-pin LQFP
EZ80F91GAZ0CEG	Standard	eZ80®	50	256	16 MB	16	10/100	32	4	√	√	POR/ VBO	2 UARTs, SPI, I2C, IRDA	3.0-3.6V	144-pin LQFP

ZGATE Development Kit

Part Number	Item	Device Compatibility
ZGATE000100ZCOG	ZGATE Embedded Security Development Kit	EZ80F91GA

Firewall Features	Firewall Package		
	Standard	Extended	Premium*
Static filtering	Yes	Yes	Yes
Stateful packet inspection	Yes	Yes	Yes
Port, protocol and address limits	15 ports, 10 protocols, 10 IP addresses & 10 MAC addresses	100 ports, 100 protocols, 100 IP addresses & 100 MAC addresses	100 ports, 100 protocols, 100 IP addresses & 100 MAC addresses
Threshold-based filtering	No	No	Yes
*The ZGATE Embedded Security Development Kit (ZGATE000100ZCOG) ships with the Premium firewall package.			

Key Features:

- Easily add secure Ethernet capability to your products
- Easy implementation for complicated network stacks
- Zilog full-featured TCP/IP Software Suite
- Embedded firewall with easily configured filtering rules
- 50 MHz high-performance eZ80 CPU with Ethernet Media Access Control (EMAC)
- 256KB Flash Program Memory with 16KB high-speed SRAM (including 8K for EMAC)
- 32 GPIO ports
- External memory interface
- Supports multiple network protocols
- Includes multiple servers/clients
- Real-Time Operating System (RTOS)
- Easily configured filtering rules
- Extremely low firewall latency
- Lockdown mode
- API for event logging

Z8051 Series of Microcontroller Solutions

Z8051 DESIGN WITH FREEDOM

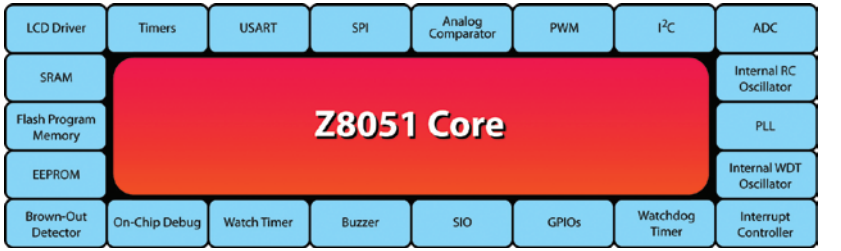
- Highly flexible and cost-effective solutions for a variety of embedded control applications
- High-performance, 8-bit CISC core (2 clocks per cycle)
- Industry-standard 8051-compatible core
- Zilog's continuing commitment to supporting our customers with long product life cycles

Z8051 MCU

Part Number	Flash (KB)	RAM (B)	EE PROM (B)	fmax (MHz)	I/O pins	SPI	I²C	USART	ADC	ADC Resolution	Timers	PWM	$VDD_{[min]}$ (V)	$VDD_{[max]}$ (V)	Package	Comments
Z51F0410	4	256	256	8	8	1 (1 shared)	1	1	8	12	3 8Bit × 2ch (16Bit × 1ch), 16Bit × 1ch	1	1.8	5.5	10-pin, SSOP	Analog Comparator, Buzzer Driver port, On chip RC Oscillator (8 MHz, 128k), WDT, BOD, Watch Timer, -40C to +85C Operating Temp., Power Saving Modes, ROM Encryption
Z51F0811	8	512	512	12	14, 18, 26, 30	3 (2 shared)	1	2	8, 9, 12, 15	12	5 8Bit × 4ch (16Bit × 2ch), 16Bit × 1ch	1	1.8	5.5	16-pin, TSSOP 20-pin, TSSOP 28-pin, TSSOP 32-pin QFN	Buzzer Driver port, On chip RC Oscillator (8MHz,125k), WDT, BOD, Watch Timer, -40C to +85C Operating Temp., Power Saving Modes
Z51F3220	32	1024	--	16	30, 42	3 (2 shared)	2 (2 shared)	2	12, 16	12	5 8Bit × 1ch, 16Bit × 2ch, 8Bit × 2ch, (16Bit × 1ch)	1	1.8	5.5	44-pin MQFP 32-pin SOP	LCD Driver (18, 27) seg./ (4, 8) com., Buzzer Driver port, On chip RC Oscillator (16MHz, 5KHz), Pulse Gen., WDT, BOD/LVD, Watch Timer, -40C to +85C Operating Temp., Power Saving Modes
Z51F3221	32	1280	--	12	54, 70	--	--	1	5, 8	12	4 8Bit × 2ch, 16Bit × 2ch	2	1.8	5.5	64-pin LQFP 80-pin LQFP	LCD Driver 40 seg. / 8 com., Buzzer Driver port, SIO port, On chip RC Oscillator (8MHz, 6KHz), WDT, BOD, Watch Timer, -40C to +85C Operating Temp., Power Saving Modes
Z51F6412	64	3328	--	16	52, 66	6 (4 shared)	1	4	15	12	6 8Bit × 2ch (16Bit × 1ch), 16Bit × 4ch	5	2	5.5	64-pin LQFP 80-pin LQFP	PLL (1.38MHz - 14.75 MHz), Calculator Multi/Div, Buzzer Driver port, On chip RC Oscillator 16MHz, WDT, BOD, Watch Timer, -40C to +85C Operating Temp., Power Saving Modes

Z8051 DEVELOPMENT KITS

Part Number	Item	Description
Z51F0410000KITG	Z51F0410 Evaluation Kit	Z51F0410 Evaluation Board Z8051 USB On-Chip Debugger (OCD) Z8051 OCD Target Cable (10ckt) USB Cables: One A (male) to Mini-B Cable Z51F0410 Evaluation Kit Insert (FL0148)
Z51F0811000KITG	Z51F0811 Evaluation Kit	Z51F0811 Evaluation Board Z8051 USB On-Chip Debugger (OCD) Z8051 OCD Target Cable (10ckt) USB Cables: Two A (male) to Mini-B Cables Z8051 OCD Software and Documentation CDROM Z51F0811 Evaluation Kit Insert (FL0138)
Z51F3220000ZCOG	Z51F3220 Development Kit	Z51F3220 Development Board Z8051 USB On-Chip Debugger (OCD) Z8051 OCD Target Cable (10ckt) USB Cables: Two A (male) to Mini-B Cables Z8051 OCD Software and Documentation CDROM Z51F3220 Evaluation Kit Insert (FL0139)
Z51F3221000ZCOG	Z51F3221 Development Kit	Z51F3221 Development Board Z8051 USB On-Chip Debugger (OCD) Z8051 OCD Target Cable (10ckt) USB Cables: Two A (male) to Mini-B Cables Z51F3221 Development Kit Insert (FL0149)
Z51F6412000ZCOG	Z51F6412 Development Kit	Z51F6412 Development Board Z8051 USB On-Chip Debugger (OCD) Z8051 OCD Target Cable (10ckt) USB Cables: Two A (male) to Mini-B Cables Z51F6412 Development Kit Insert (FL0150)



ZMOTION® PIR-Based Motion Detection Solutions

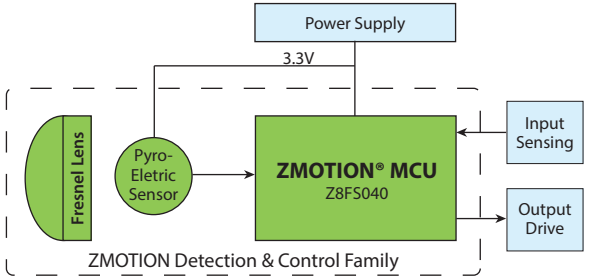
Zilog's ZMOTION PIR-based Motion Detection Solutions combine a series of high-performance microcontrollers, including an integrated Motion Detection Engine (ZMOTION MCU) with a selection of lenses and Passive Infrared (PIR) sensors to fit a wide range of application requirements.

Two Motion Detection engines are available : "Detection & Control" for general-purpose motion detection applications, and "Intrusion" which includes LED-based White Light Detection for intrusion/security applications. Optimized configuration parameters for the ZMOTION MCU are provided for each lens/sensor combination to ensure the best possible performance while significantly reducing development risk and minimizing time to market.

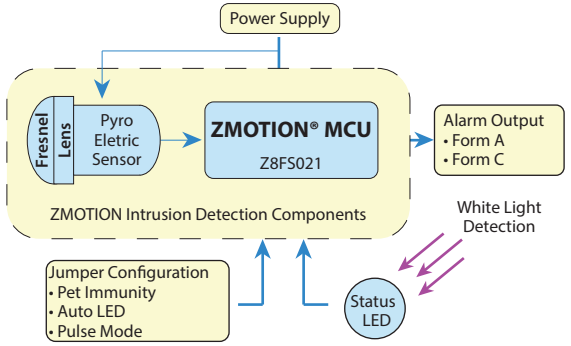
Optimize the performance of your product by choosing a lens that closely matches your application. Use your own lens or select from our family of lenses spanning 360-degree ceiling, 180-degree wall mount, 25-meter long range, 5-meter short range and intrusion-specific.

Zilog's enhanced PIR motion-detection technology provides a dramatic improvement in both sensitivity and stability over traditional designs and is scalable to many market segments, including Intrusion/Security, Lighting Control, HVAC, Access Control, Vending, Display, Proximity, Power Management, Occupancy Sensing, and many others.

ZMOTION Detection Module Block Diagram



ZMOTION Intrusion Detection Block Diagram



ZMOTION MCU																
Part Number	ZMOTION Engine	CPU Core	Max. CPU Frequency (MHz)	Internal Oscillator (MHz)	Flash Memory (KB)	Registers (RAM)	Sigma/Delta ADC	GPIO	Timers 16 Bit Multi-Function	Comparators	POR/VBO	Serial Interfaces	Operating Voltage	Package	Operating Range	Development Kit	MCU & Package Field (Bundle)
Z8FS040xSB20EG	Detection & Control	eZ8	20	5.53	4	256	3	5	2	1	√	UART	2.7V to 3.6V	8-pin SOIC	–40C to 105C	ZMOTIONL100ZCOG	0B SB
Z8FS040xHH20EG	Detection & Control	eZ8	20	5.53	4	256	4	16	2	1	√	UART	2.7V to 3.6V	20-pin SSOP	–40C to 105C	ZMOTIONL200ZCOG	0B HH
Z8FS021xHH20EG	Intrusion	eZ8	20	5.53	2	256	4	16	2	1	√	UART	2.7V to 3.6V	20-pin SSOP	–40C to 105C	ZMOTIONS200ZCOG	1A HH

Part Number: x = ZMOTION Engine Revision

ZMOTION Detection and Control Development Kit
Part No. ZMOTIONL100ZCOG

ZMOTION 20-Pin Detection and Control Development Kit
Part No. ZMOTIONL200ZCOG

ZMOTION Intrusion Detection Development Kit
Part No. ZMOTIONS200ZCOG

ZMOTION DEVELOPMENT KITS		
Part Number	Item	Description
ZMOTIONL100ZCOG	ZMOTION Detection & Control 8-pin Development Kit	ZMOTION Detection & Control Family : 8-pin ZMOTION MCU
ZMOTIONL200ZCOG	ZMOTION Detection & Control 20-pin Development Kit	ZMOTION Detection & Control Family : 20-pin ZMOTION MCU
ZMOTIONS200ZCOG	ZMOTION Intrusion Detection 20-pin Development Kit	ZMOTION Intrusion Detection Solution : 20-pin ZMOTION MCU

ZMOTION® PIR-Based Motion Detection Solutions *(Continued from previous page.)*

ZMOTION Lenses and Pyros

Zilog offers a wide selection of lenses and pyroelectric sensors to match your application requirements. Select a lens and sensor from the tables below. Recommended configuration settings for the ZMOTION MCU are provided for each lens type.

ZMOTION LENS			
Lens Part Number	Description	Typical Applications	Lens Field (Bundle)
ZAA09GIT1	**Fresnel Animal Alley Array (88°)** • 35.6 mm x 49.9 mm flat Fresnel • 22.9 mm focal length • 25 meter range • 22 equal segments	Corner wall mount or very high ceiling with rectangular floor pattern • Warehouse lighting (bay light) • Combined intrusion and lighting control • HVAC	0A
ZCM077GIV3	**Fresnel Ceiling Mount Array (360°)** • 37 mm diameter circular lens • 19.6 mm focal length • 3.7 m radius at 2.4 m height • 3:1 diameter-to-height floor coverage	Ceiling mount for standard commercial heights • Lighting control • HVAC control • Meeting rooms	0B
ZCM077GIV5	**Fresnel Ceiling Mount Array (360°)** • 37 mm diameter circular lens • 19.6 mm focal length • 12.2 m radius at 12.2 m height • 2:1 diameter-to-height floor coverage	High ceiling mount for commercial and industrial applications • Commercial lighting control • Commercial HVAC control • Street Lighting	0C
ZCWM05GIV1	**Fresnel 24 mm Ceiling/Wall Array (180°)** • Clips on to circuit board • Circular lens with 24 mm x 24 mm square base • 14.2 mm focal length • 10 m range	Wall or ceiling mount for office or meeting room lighting and HVAC control • Room lighting control • HVAC control"	0D
ZNCL926	**Nicera 15 mm Ceiling/Wall Array (360°)** • Clips on to pyroelectric sensor • 2.25 m radius at 2 m height • 2.1:1 diameter-to-height floor coverage	Room occupancy and proximity sensing • Lighting control • HVAC control • Appliance • Kiosk/display control • Vending power management	1A
ZNCL10IL	**Nicera 10 mm Wall Mount Array (70°)** • Clips on to pyroelectric sensor • 6 beams (X); 2 beams (Y) • 10 meter range	Proximity sensing or entrance detection • Kiosk/Display Counters • Vending • HVAC • Entrance/Access Control	1B
ZNCL3B	**Nicera 10 mm Wall Mount Array (40°)** • Clips on to pyroelectric sensor • 4 beams (X); 2 beams (Y) • 10 meter range	Proximity sensing or entrance detection • Kiosk/Display Counters • Vending • HVAC • Entrance/Access Control	1C

PYRO ELECTRIC SENSOR		
Part Number	Description	PIR Field (Bundle)
ZRE200BP	**Nicera Dual Element PIR Sensor** • Manufacturer: Nippon Ceramic • 3-Pin, TO-5 Metal Can (through-hole) • Dual 2mm x 1mm Elements	0A
ZSDA0254P	**Nicera Dual Element PIR Sensor** • Manufacturer: Nippon Ceramic • 3-Pin, TO-5 Metal Can (through-hole) • Dual 2mm x 1mm Elements • Low noise	0B
ZSBDI46504AA	**Nicera Quad Element PIR Sensor** • Manufacturer: Nippon Ceramic • 3-Pin, TO-5 Metal Can (through-hole) • Quad 1mm x 1mm Elements	0C

ZMOTION LENS			
Lens Part Number	Description	Typical Applications	Lens Field (Bundle)
ZNCL3R	**Nicera 10 mm Ceiling/Wall Mount Array (360°)** • Clips on to pyroelectric sensor • 2:1:1 diameter-to-heightcoverage • 14 zones• 5 meter range	**Room occupancy and proximitysensing** • Lighting control • HVAC control • Appliances • Kiosk/display control • Vending power management	1D
ZNCL10S	**Nicera 10 mm Wall Mount Array (17°)** • Clips on to pyroelectric sensor • 2 beams (X); 1 beam (Y) • 10 meter range	**Entrance detection with directional recognition** • Kiosk/display counters • Vending • HVAC • Entrance/access control	1E
ZNCL11	**Nicera 21 mm x 9 mm Wall Mount Array (104°)** • Circuit board mount, black rectangular lens • 32 zones • 104° (X); 37° (Y) • 4 meter range	**Room occupancy and proximity sensing** • Consumer electronics and appliance power management • Display power management • TV auto shut-off • Keypad motion detector	1F
ZEWA03GIV2	**Fresnel Wall Mount Extra Wide Angle Array (180°)** • 14 mm x 28 mm flat Fresnel • 7.6 mm focal length • 5 meter range • 16 equal segments	**Room occupancy and proximity sensing** • 180° detection with single pyro • Wall mount room lighting control • AC light switch replacement • Hotel room thermostats	
ZWA12GI12V4	**Fresnel Wide Angle Array** • 42.6 mm x 61.0 mm flat Fresnel • 30.5 mm (1.2") focal length • 88° detection area • 18 meter range	**Intrusion/Security** • Corner wall mount 18 meter motion detector	0E
ZLR12GI12V3	**Fresnel Long Range Array** • 42.6 mm x 61.0 mm flat Fresnel • 30.5 mm (1.2") focal length • Narrow detection area • 30 meter range	**Intrusion/Security** • Wall mount corridor and curtain-type motion detectors	0F
ZVB12GIV1	**Fresnel Vertical Barrier Array** • 42.6 mm x 61.0 mm flat Fresnel • 30.5 mm (1.2") focal length • Narrow detection width (5.6°) • 15 meter range	**Intrusion/Security** • Curtain- and vertical barrier-type motion detectors	0G
CM0.77GIV2	• Ceiling Mount Array (360°) • 37mm diameter circular lens • 19.6mm focal length • 12.2m radius at 3.7m height • 4:1 floor coverage diameter-to-height ratio	• High ceiling mount for commercial lighting control • Commercial HVAC	

Bundled Part Numbers:

Purchase the MCU, lens and pyroelectric sensor separately using the part numbers listed in their associated table. For samples and small production quantities (prototypes), purchase all three pieces as a bundle using the part number construction table below.

Position:	1	2	3	4	5 6	7 8	9 10	11 12	13
Field	Z	M	O	T	MCU	MCU Package	Lens	PIR	RoHS
					Selected Options				

ZMOTION® Detection Module II

Zilog's ZMOTION Detection Module II is a complete motion detection solution ideally suited for applications that need to detect human presence. It is an excellent solution for detecting people as they approach entrances, kiosks, product displays, vending machines, appliances and advertising displays.

The ZMOTION Detection Module II is a board-level product that combines the unique features of Zilog's Z8FS040 Motion Detection Microcontroller with a pyroelectric sensor and a low profile lens. The module is only 25.5 mm x 16.7 mm so it can easily fit into many size-constrained applications.

The ZMOTION Detection Module II is simple to use. It can operate in a Hardware Mode, which simply activates an output signal when motion is detected, or in a Serial Mode allowing it to 'talk' to another processor in your system when greater control over the motion detection performance is required. In both modes, sensitivity and output activation time can be controlled to match application requirements. For applications that require ambient light sensing, an input supporting an external light sensor is provided that can be used to gate the motion detection output.

Zilog's ZMOTION Detection Module II Evaluation Kit makes it quick and easy to integrate the ZMOTION Detection Module II into your own custom application.

The ZMOTION Detection Module II is a great way to reduce design effort and eliminate development risk for any device that needs motion detection capability.

ZEPIR0BA02MODG
(Right Angle Connector)

ZMOTION DETECTION MODULE								
Part Number	Detection Pattern	Modes	Input Control	Operating Range	Other Features	Interface Connector	Board Dimensions	Evaluation Kit
ZEPIR0BA02MODG	Up to 7 meters 60 degree cone	Serial Stand-Alone (Hardware)	Ambient Light, On Time , Sensitivity, Sleep	2.7V to 3.6V 0C to 70C	Reprogrammable application code	8-pin, Right Angle 0.1" Spacing	25.5 mm x 16.7 mm x 17 mm	ZEPIR000103KITG
ZEPIR0BB02MODG	Up to 7 meters 60 degree cone	Serial Stand-Alone (Hardware)	Ambient Light, On Time , Sensitivity, Sleep	2.7V to 3.6V 0C to 70C	Reprogrammable application code	8-pin, Straight 0.1" Spacing	25.5 mm x 16.7 mm x 17 mm	ZEPIR000103KITG

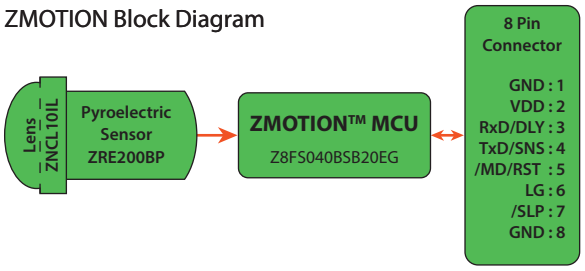
ZMOTION Detection Module II Evaluation Kit

Zilog's ZMOTION Detection Module II Evaluation Kit includes all the necessary components required to begin working with the ZMOTION Detection Module II. The Evaluation Board supports both Serial and H/W interface modes and includes potentiometers to adjust sensitivity, delay (on time) and ambient light detection. It also includes a prototyping area to add your own custom application hardware.

The ZMOTION Detection Module II Evaluation Kit (ZEPIR000103KITG) contains the following components:

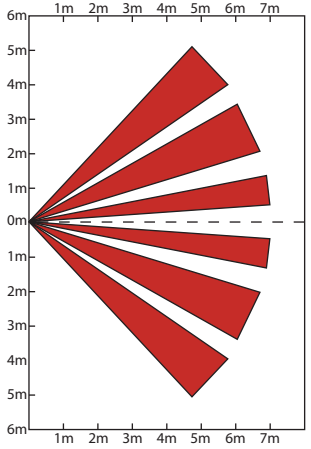
- ZMOTION Evaluation Board
- ZEPIR0BA02MODG ZMOTION Detection Module II (Right Angle Connector)
- RS-232 Serial Cable DB9-DB9
- 5 V DC Universal Power Supply

ZMOTION Block Diagram



ZMOTION Detection Pattern

The ZMOTION Detection Module II lens provides a typical range of 5m x 6m with a 95-degree angle. The actual distance is dependent on the sensitivity setting and ambient temperature.



eZ80Acclaim!® Ethernet Microcontrollers

The eZ80Acclaim! Family of Ethernet and Internet Connectivity MCUs integrates a high-performance Flash controller with a fast on-chip 10/100 Base-T Ethernet MAC and the eZ80® CPU Core. Adding to the existing eZ80Acclaim! feature set, the eZ80AcclaimPlus! touts an updated embedded internet software suite (ZTP) with free RTOs and TCP/IP Stack web server support, a flexible line of single-board computers, and an additional 10% system performance boost that equates to faster program execution and smaller memory space requirements over the original eZ80Acclaim! family of products.

The eZ80Acclaim! and eZ80AcclaimPlus! Connectivity Microcontrollers are a great time-to-market embedded solution for any device that requires Ethernet connectivity, and is well-suited for industrial, communication, automation, security, consumer electronics, medical, entertainment, vending machines, and other embedded Internet applications. It is Op Code-compatible to Z80® and Z180 products and can access up to 16 MB of external memory.

eZ80ACCLAIM! SYSTEM ON A CHIP SOLUTIONS

Device	CPU Core	Max. Speed (MHz)	Flash (KB)	External Memory	SRAM (KB)	EthernetMAC	GPIO	16-Bit Timers	RTC	WDT	POR/ VBO	Peripheral Interfaces	Operating Range	Package
eZ80F91	eZ80	50	256	16 MB	16	10/100	32	4	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V -40C to 105C	144-pin LQFP 144-ball BGA
eZ80F92	eZ80	20	128	16 MB	8	-	24	6	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V -40C to 105C	100-pin LQFP
eZ80F93	eZ80	20	64	16 MB	4	-	24	6	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V -40C to 105C	100-pin LQFP
eZ80L92	eZ80	50	0	16 MB	0	-	24	6	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V -40C to 105C	100-pin LQFP

eZ80ACCLAIM! MODULES

Part Number	Item	CPU Core	Max. Speed (MHz)	Flash (KB)	External Memory	SRAM (KB)	EthernetMAC	GPIO	16-Bit Timers	RTC	WDT	POR/ VBO	Peripheral Interfaces (CPU)	Operating Range	Package
eZ80F915150MODG	eZ80F91 Module	eZ80	50	256	8 MB	8 (Int) 512 (Ext)	10/100	32	4	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V 0C to 70C	63.5mm x 64.0mm PCB
eZ80F915005MODG	eZ80F91 Ethernet MDS Module	eZ80	50	256	0	8 (Int) 128 (Ext)	10/100	32	4	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V 0C to 70C	50mm x 47.5mm PCB
eZ80F920020MODG	eZ80F92 Flash MCU Module	eZ80	20	128	0	8 (Int) 512 (Ext)	-	24	6	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V 0C to 70C	63.5mm x 64.0mm PCB
eZ80L925048MODG	eZ80 Webserver-I E-NET Module	eZ80	48	0	1 MB	512 (Ext)	10	24	6	√	√	POR / VBO	2 UARTs, SPI, I²C, IRDA	3.0V to 3.6V 0C to 70C	63.5mm x 64.0mm PCB

eZ80ACCLAIM! DEVELOPMENT KITS

Part Number	Item	Device Compatibility
eZ80F920200ZCOG	eZ80F92 Development Kit	eZ80F92, eZ80F93
eZ80L920210ZCO	eZ80L92 Development Kit	eZ80L92
ZENETSC0100ZACG	Ethernet Smart Cable Accessory Kit	eZ80F92, eZ80F93, eZ80L92
ZUSBSC00100ZACG	USB Smart Cable Accessory Kit	eZ80F92, eZ80F93, eZ80L92

eZ80AcclaimPlus!® Ethernet Microcontrollers

eZ80 AcclaimPlus! Ethernet ASSP

eZ80ACCLAIMPLUS! SYSTEM ON A CHIP SOLUTIONS														
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	External Memory	SRAM (KB)	Ethernet MAC	GPIO	16-Bit Timers	RTC	WDT	POR/ VBO	Peripheral Interfaces	Operating Range	Package
eZ80F91AZA	eZ80	50	256	16 MB	16	32	32	4	√	√	√	2 UARTs, SPI, I²C	3.0V to 3.6V –40C to 105C	144-pin LQFP
eZ80F91NAA	eZ80	50	256	16 MB	16	32	32	4	√	√	√	2 UARTs, SPI, I²C	3.0V to 3.6V –40C to 105C	144-ball BGA

eZ80ACCLAIMPLUS! ETHERNET CONNECTIVITY MICROCONTROLLER MODULES													
Part Number	Internal RAM	Internal Flash	External RAM	External Flash	Timers	E/N Interface	Operating Range	Communications (CPU)	Other Features	Interface Connector		Board Dimensions	Development Kit
eZ80F917150MODG	16KB	256KB	512KB	8 MB	4 16-bit Multi-function	10/100 Base-T RJ45	3.0V to 3.6V 0C to 70C	1- I²C, 1-SPI 2-UART, 1-IrDA	RTC with external battery support	2 60-pin Headers (0.1" spacing)	32 GPIO, I²C, SPI, 2-UART External Memory& I/O Bus	79mm x 63mm 3.1" x 2.5"	eZ80F910300ZCOG
eZ80F916005MODG	16KB	256KB	128KB	0	4 16-bit Multi-function	10/100 Base-T RJ45	3.0V to 3.6V 0C to 70C	1- I²C, 1-SPI 2-UART	RTC with external battery support	2 56-pin Headers (0.8mm spacing)	32 GPIO, I²C, SPI, 2-UART External Memory & I/O Bus	51mm x 48mm 2.0" x 1.9"	eZ80F910200KITG

eZ80ACCLAIMPLUS! DEVELOPMENT KITS		
Part Number	Item	Device Compatibility
eZ80F910300KITG	eZ80AcclaimPlus! Development Kit (C Compiler included)	eZ80F91 (eZ80AcclaimPlus!)
eZ80F910300ZCOG	eZ80F91 Development Kit (C Compiler included)	eZ80F91 (eZ80AcclaimPlus!)
eZ80F910200KITG	eZ80F91 Modular Development Kit (C Compiler included)	eZ80F91 (eZ80AcclaimPlus!)
ZENETSC0100ZACG	Ethernet Smart Cable Accessory Kit	eZ80F91 (eZ80AcclaimPlus!)
ZUSBSC00100ZACG	USB Smart Cable Accessory Kit	eZ80F91 (eZ80AcclaimPlus!)

eZ80ACCLAIMPLUS! SOFTWARE		
Part Number	Item	Device Compatibility
eZ800000100KTS	Real-Time Kernel and TCP/IP Protocol Stack Source Code and ZDS	eZ80F91 (eZ80AcclaimPlus!)
eZ800000100PTS	ZTP Network Security SSL Plug-In Option (International Version)	eZ80F91 (eZ80AcclaimPlus!)
eZ800000100PSS	ZTP Network Security SSL Plug-In Option (US Version)	eZ80F91 (eZ80AcclaimPlus!)

eZ80AcclaimPlus! Ethernet Microcontrollers

Z8 Encore!® 8-Bit Flash Microcontrollers

Z8 Encore! Flash Microcontrollers

Zilog's Z8 Encore! Family of Flash Microcontrollers offer up to 12KB of Flash, and software code can be reprogrammed using single-pin debug in Flash memory through development and in-circuit in production. Performance is further enhanced by Zilog's any-register-to-any-register-based Modified Havard architecture, and features a 20MHz eZ8® CPU core. When incorporating this Flash MCU into new designs or upgrading from the existing Z8® architecture, you will find that the Z8 Encore! MCU provides excellent math performance and an unbeatable value. Development tools support unlimited break points, and free C Compiler.

The Z8 Encore! family is a perfect solution for personal electronic devices, battery charging, security systems, and consumer appliance applications.

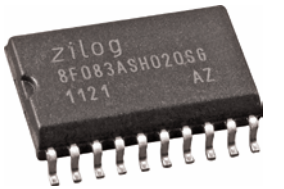
Z8 Encore! 8-Bit Flash Microcontrollers

Z8 ENCORE! 8-BIT FLASH MICROCONTROLLERS

Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (B)	NVDS* (B)	GPIO	Dual PWMs	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/ LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
F083A Series Key Features: 4/8KB Flash | Fast 2.5µS ADC | 20MHz IPO																	
Z8F083A	eZ8	20	8	256	100	23, 17	2	2	√	8, 7	1	POR / VBO	20	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F043A	eZ8	20	4	256	100	23, 17	2	2	√	8, 7	1	POR / VBO	20	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F1232	eZ8	20	12	256	0	23, 17	2	2	√	8, 7	1	POR / VBO	5.5	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0830	eZ8	20	8	256	64	23, 17	2	2	√	8, 7	1	POR / VBO	5.5	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0430	eZ8	20	4	256	64	23, 17	2	2	√	8, 7	1	POR / VBO	5.5	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0230	eZ8	20	2	256	64	23, 17	2	2	√	8, 7	1	POR / VBO	5.5	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0130	eZ8	20	1	256	64	23, 17	2	2	√	8, 7	1	POR / VBO	5.5	-	SAR ADC	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F1233	eZ8	20	12	256	0	25, 17	2	2	√	-	1	POR / VBO	5.5	-	-	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0831	eZ8	20	8	256	64	25, 17	2	2	√	-	1	POR / VBO	5.5	-	-	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0431	eZ8	20	8	256	64	25, 17	2	2	√	-	1	POR / VBO	5.5	-	-	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0231	eZ8	20	2	256	64	25, 17	2	2	√	-	1	POR / VBO	5.5	-	-	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP
Z8F0131	eZ8	20	1	256	64	25, 17	2	2	√	-	1	POR / VBO	5.5	-	-	2.7V to 3.6V, –40C to 105C	20-/28-pin SOIC, SSOP, QFN, PDIP

Z8 ENCORE! 8-BIT FLASH MICROCONTROLLERS DEVELOPMENT KITS

Part Number	Item	Device Compatibility
Z8F083A0128ZCOG	Z8 Encore! F083A Series Development Kit	Z8 Encore! F083A Series
ZUSBOPTSC01ZACG	Opto-Isolated USB Smart Cable Accessory Kit	All Z8 Encore! Devices Listed
ZENETSC0100ZACG	Ethernet Smart Cable Kit	All Z8 Encore! Devices Listed
ZUSBSC00100ZACG	USB Smart Cable Accessory Kit	All Z8 Encore! Devices Listed



*Non-Volatile Data Storage; this space may be used similarly to EE PROM.

Z8 Encore! XP® 8-Bit Flash Microcontrollers

Z8 Encore! XP® Flash Microcontrollers

Expand your development potential with the Z8 Encore! XP Family of mixed signal 8-bit microcontrollers with Extended Peripherals. Our fully integrated Z8 Encore! XP family, with Zilog's any-register-to-any-register Modified Harvard based architecture, offers a wide variety of high-performance, feature-rich solutions that provide both bill of material cost savings and design flexibility. Demonstrating a high level of integration with low overall system cost, the Z8 Encore! XP integrates differentiating features to solve your engineering problems. The family supports unique peripherals on-chip, including a temperature sensor, a transimpedance amplifier, and a best-in-class Analog-to-Digital Converter (ADC) with 10-/11-bit resolution and up to 15-bit resolution through oversampling. With additional integrated features, such as an on-chip Internal Precision Oscillator, Non-Volatile Data Storage (NVDS) memory, and large working memory, the Z8 Encore! XP performs favorably over its competition. The development tools support unlimited break points and free C Compiler.

The Z8 Encore! XP Family is a perfect solution for motor control, power management, personal electronic devices, intelligent cooling, battery charging, security systems, and sensor interfacing applications. With the single-pin debug, the Z8 Encore! XP family is great for in-circuit production programming.

PREMIUM PERIPHERAL SET

Z8 ENCORE! XP FLASH MICROCONTROLLERS (for ROM versions, please contact Zlog Sales or Distribution Representatives)																
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (KB)	NVDS* (B)	GPIO	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/ LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
F64 Series Key Features: Up to 64KB Flash | Sigma-Delta ADC																
Z8F6423	eZ8	20	64	4K	0	60	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	80-pin QFP
Z8F4823	eZ8	20	48	4K	0	60	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	80-pin QFP
Z8F6422	eZ8	20	64	4K	0	46	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	64-pin LQFP, 68-pin PLCC
Z8F4822	eZ8	20	48	4K	0	46	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	64-pin LQFP, 68-pin PLCC
Z8F3222	eZ8	20	32	2K	0	46	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	64-pin LQFP, 68-pin PLCC
Z8F2422	eZ8	20	24	2K	0	46	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	64-pin LQFP, 68-pin PLCC
Z8F1622	eZ8	20	16	2K	0	46	4	√	12	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	64-pin LQFP, 68-pin PLCC
Z8F6421	eZ8	20	64	4K	0	31, 29	3	√	8	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	40-pin PDIP, 44-pin PLCC, 44-pin LQFP
Z8F4821	eZ8	20	48	4K	0	31, 29	3	√	8	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	40-pin PDIP, 44-pin PLCC, 44-pin LQFP
Z8F3221	eZ8	20	32	2K	0	31, 29	3	√	8	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	40-pin PDIP, 44-pin PLCC, 44-pin LQFP
Z8F2421	eZ8	20	24	2K	0	31, 29	3	√	8	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	40-pin PDIP, 44-pin PLCC, 44-pin LQFP
Z8F1621	eZ8	20	16	2K	0	31, 29	3	√	8	-	POR / VBO	-	2 UARTs, SPI, I²C	3 DMA Channels	3.0V to 3.6V –40C to 125C	40-pin PDIP, 44-pin PLCC, 44-pin LQFP

PREMIUM PERIPHERAL SET

Z8 ENCORE! XP FLASH MICROCONTROLLERS																
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (B)	NVDS* (B)	GPIO	DMA Channels	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/ LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
F1680 Series Key Features: Up to 24KB Flash | Fast 5µS ADC																	
Z8F2480	eZ8	20	24	2K + 1K	0	37, 33, 23, 17	-	3	√	8, 7	1-2	POR/VBO/ LVD	11	1-2 LIN UARTs, 0-1 ESPI, I²C	16-Bit Timers/4 Channel PWMs, ** Temp Sensor, Op Amp, PRAM	1.8V to 3.6V –40C to 105C	20-/28-pin SOIC, 20-/28-pin SSOP, 20/28 pin PDIP, 40-pin PDIP, 44-pin LQFP, 44-pin QFN
Z8F1680	eZ8	20	16	2K + 1K	256	37, 33, 23, 17	-	3	√	8, 7	1-2	POR/VBO/ LVD	11	1-2 LIN UARTs, 0-1 ESPI, I²C	16-Bit Timers/4 Channel PWMs, ** Temp Sensor, Op Amp, PRAM	1.8V to 3.6V –40C to 105C	20-/28-pin SOIC, 20-/28-pin SSOP, 20/28 pin PDIP, 40-pin PDIP, 44-pin LQFP, 44-pin QFN
Z8F0880	eZ8	20	8	1K + 1K	128	37, 33, 23, 17	-	3	√	8, 7	1-2	POR/VBO/ LVD	11	1-2 LIN UARTs, 0-1 ESPI, I²C	16-Bit Timers/4 Channel PWMs, ** Temp Sensor, Op Amp, PRAM	1.8V to 3.6V –40C to 105C	20-/28-pin SOIC, 20-/28-pin SSOP, 20/28 pin PDIP, 40-pin PDIP, 44-pin LQFP, 44-pin QFN

*Non-Volatile Data Storage; this space may be used similarly to EE PROM.

**Available on 44-pin packages only.

Z8 Encore! XP® 8-Bit Flash Microcontrollers *(Continued from previous page.)*

Z8 Encore!XP® Flash Microcontrollers

EXTENDED PERIPHERAL SET

Z8 ENCORE! XP FLASH MICROCONTROLLERS (for ROM versions, please contact Zilog Sales or Distribution Representatives)																
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (KB)	NVDS* (B)	GPIO	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/ LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
F0822 Series Key Features: Up to 8K Flash | Sigma-Delta ADC																
Z8F0822	eZ8	20	8	1K	0	19	2	√	5	-	POR / VBO	-	UART, SPI, I²C	-	2.7V to 3.6V –40C to 105C	28-pin SOIC, 28-pin PDIP
Z8F0422	eZ8	20	4	1K	0	19	2	√	5	-	POR / VBO	-	UART, SPI, I²C	-	2.7V to 3.6V –40C to 105C	28-pin SOIC, 28-pin PDIP
Z8F0812	eZ8	20	8	1K	0	19	2	√	0	-	POR / VBO	-	UART, SPI, I²C	-	2.7V to 3.6V –40C to 105C	28-pin SOIC, 28-pin PDIP
Z8F0412	eZ8	20	4	1K	0	19	2	√	0	-	POR / VBO	-	UART, SPI, I²C	-	2.7V to 3.6V –40C to 105C	28-pin SOIC, 28-pin PDIP
Z8F0821	eZ8	20	8	1K	0	11	2	√	2	-	POR / VBO	-	UART, I²C	-	2.7V to 3.6V –40C to 105C	20-pin SSOP, 20-pin PDIP
Z8F0421	eZ8	20	4	1K	0	11	2	√	2	-	POR / VBO	-	UART, I²C	-	2.7V to 3.6V –40C to 105C	20-pin SSOP, 20-pin PDIP
Z8F0811	eZ8	20	8	1K	0	11	2	√	0	-	POR / VBO	-	UART, I²C	-	2.7V to 3.6V –40C to 105C	20-pin SSOP, 20-pin PDIP
Z8F0411	eZ8	20	4	1K	0	11	2	√	0	-	POR / VBO	-	UART, I²C	-	2.7V to 3.6V –40C to 105C	20-pin SSOP, 20-pin PDIP

STANDARD PERIPHERAL SET

Z8 ENCORE! XP FLASH MICROCONTROLLERS																
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (B)	GPIO	NVDS* (B)	DMA Channels	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/ LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
F082A Series Key Features: Up to 8K Flash | High Accuracy Sigma-Delta ADC | 5.5MHz IPO																	
Z8F082A	eZ8	20	8	1K	23, 17, 6	0	-	2	√	8, 7, 4	1	POR/VBO	5.5 +/- 1% 0.032	UART	Temp Sensor, Op Amp, LVD (8-pin only) Sigma/Delta ADC supporting single-ended and differencial modes	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F042A	eZ8	20	4	1K	23, 17, 6	128	-	2	√	8, 7, 4	1	POR/VBO	5.5 +/- 1% 0.032	UART	Temp Sensor, Op Amp, LVD (8-pin only) Sigma/Delta ADC supporting single-ended and differencial modes	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F022A	eZ8	20	2	512	23, 17, 6	64	-	2	√	8, 7, 4	1	POR/VBO	5.5 +/- 1% 0.032	UART	Temp Sensor, Op Amp, LVD (8-pin only) Sigma/Delta ADC supporting single-ended and differencial modes	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F012A	eZ8	20	1	256	23, 17, 6	16	-	2	√	8, 7, 4	1	POR/VBO	5.5 +/- 1% 0.032	UART	Temp Sensor, Op Amp, LVD (8-pin only) Sigma/Delta ADC supporting single-ended and differencial modes	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F081A	eZ8	20	8	1K	25, 17, 6	0	-	2	√	-	1	POR/VBO	5.5 +/- 1% 0.032	UART	-	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F041A	eZ8	20	4	1K	25, 17, 6	128	-	2	√	-	1	POR/VBO	5.5 +/- 1% 0.032	UART	-	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F021A	eZ8	20	2	512	25, 17, 6	64	-	2	√	-	1	POR/VBO	5.5 +/- 1% 0.032	UART	-	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F011A	eZ8	20	1	256	25, 17, 6	16	-	2	√	-	1	POR/VBO	5.5 +/- 1% 0.032	UART	-	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP

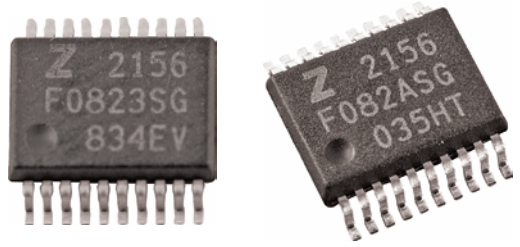
*Non-Volatile Data Storage; this space may be used similarly to EE PROM.

Z8 Encore! XP® 8-Bit Flash Microcontrollers *(Continued from previous page.)*

BASIC PERIPHERAL SET

Z8 ENCORE! XP FLASH MICROCONTROLLERS (for ROM versions, please contact Zilog Sales or Distribution Representatives)																
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (KB)	NVDS* (B)	GPIO	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/ LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
F0823 Series Key Features: Up to 8K Flash | Sigma-Delta ADC | 5.5MHz IPO																
Z8F0823	eZ8	5.5	8	1K	0	22, 16, 6	2	√	8, 7, 4	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0423	eZ8	5.5	4	1K	0	22, 16, 6	2	√	8, 7, 4	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0223	eZ8	5.5	2	512	0	22, 16, 6	2	√	8, 7, 4	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0123	eZ8	5.5	1	265	0	22, 16, 6	2	√	8, 7, 4	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0813	eZ8	5.5	8	1K	0	24, 16, 6	2	√	-	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0413	eZ8	5.5	4	1K	0	24, 16, 6	2	√	-	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0213	eZ8	5.5	2	512	0	24, 16, 6	2	√	-	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP
Z8F0113	eZ8	5.5	1	265	0	24, 16, 6	2	√	-	1	POR / VBO	5.5	UART	LED Drive	2.7V to 3.6V –40C to 105C	8-pin QFN, 8-/20-/28-pin SOIC, 20-/28-pin SSOP, 8-/20-/28-pin PDIP

Z8 ENCORE! XP DEVELOPMENT KITS		
Part Number	Item	Device Compatibility
Z8F04A08100KITG	Z8 Encore! XP F042A 8-Pin Development Kit	All F042/4K Devices Listed
Z8F04A28100KITG	Z8 Encore! XP F042A 28-Pin Development Kit	All F042/4K Devices Listed
Z8F08A28100KITG	Z8 Encore! XP F082A 28-Pin Development Kit	All F082/8K Devices Listed
Z8F16800128ZCOG	Z8F1680 Series Development Kit, 28-pin, w/USB Smart Cable	All F1680 Devices Listed
Z8F16800144ZCOG	Z8F1680 Series Development Kit, Dual 44-pin, w/USB Smart Cable	All F1680 Devices Listed
Z8F64200100KITG	Z8 Encore! XP F64xx Series Development Kit	All F64xx Devices Listed
Z8F08200100KITG	Z8 Encore! XP F0822 Series Development Kit	All F0822 Devices Listed
ZUSBSC00100ZACG	USB Smart Cable Accessory Kit	All Z8 Encore Devices
ZUSBOPTSC01ZACG	Opto-Isolated USB Smart Cable Accessory Kit	All Z8 Encore Devices
ZENETSC0100ZACG	Ethernet Smart Cable Accessory Kit	All Z8 Encore Devices



*Non-Volatile Data Storage; this space may be used similarly to EE PROM.

Z8 Encore! FMC™ and Z16FMC™ Microcontrollers

The Z8 Encore! FMC and Z16FMC microcontrollers are designed specifically for the motor control market. With on-chip peripherals such as an optimized PWM module, a fast 2.5 µs 10-bit A/D converter with a time stamp, an op amp, and multiple communication engines (LIN UARTs, SPI, I2C), Zilog's FMC devices are a superb solution for brushless DC motors. The integrated features of these high-performance microcontrollers (operational amplifier with external gain setting, 3-phase 12-bit PWM output with fault protection, pulse-by-pulse and fault protection shutdown, digital power management) help you tackle common motor control challenges such as energy efficiency, system cost reduction, and product differentiation with ease. Tailored development tools support unlimited breakpoints, in-circuit single-pin debug and programming, and a free C Compiler.

Z8 ENCORE! FMC MOTOR CONTROL FLASH MICROCONTROLLERS

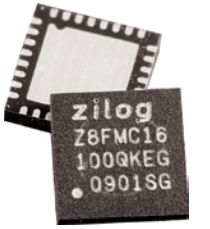
Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (B)	NVDS* (B)	GPIO	SAR / ADC	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
Z8FMC16 Series																	
Z8FMC16	eZ8	20	16	512	0	17	√	1	√	8	1	POR / VBO	5.5	UART, SPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown	2.7V to 3.6V –40C to 105C	32-pin QFN, 32-pin LQFP
Z8FMC08	eZ8	20	8	512	0	17	√	1	√	8	1	POR / VBO	5.5	UART, SPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown	2.7V to 3.6V –40C to 105C	32-pin QFN, 32-pin LQFP
Z8FMC04	eZ8	20	4	512	0	17	√	1	√	8	1	POR / VBO	5.5	UART, SPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown	2.7V to 3.6V –40C to 105C	32-pin QFN, 32-pin LQFP
Z16FMC Series																	
Z16FMC32	ZNEO	20	32	4K	0	46	√	3	√	12	1	POR / VBO	5.5	2-UART, ESPI, I²C, LIN	4-Channel DMA, 6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown	2.7V to 3.6V –40C to 105C	64-pin LQFP
Z16FMC64	ZNEO	20	64	4K	0	46	√	3	√	12	1	POR / VBO	5.5	2-UART, ESPI, I²C, LIN	4-Channel DMA, 6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown	2.7V to 3.6V –40C to 105C	64-pin LQFP
Z16FMC28	ZNEO	20	128	4K	0	46	√	3	√	12	1	POR / VBO	5.5	2-UART, ESPI, I²C, LIN	4-Channel DMA, 6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown	2.7V to 3.6V –40C to 105C	64-pin LQFP

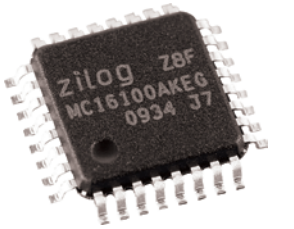
Z8 ENCORE! FMC 16100 SERIES DEVELOPMENT KITS

Part Number	Item	Device Compatibility
Z8FMC160100KITG	Z8FMC16100 Series Motor Control Development Kit	All Z8 Encore! FMC and Z16FMC Devices Listed

Z16FMC SERIES DEVELOPMENT KITS

Part Number	Item	Device Compatibility
Z16FMC28200KITG	Z16FMC Series Motor Control Development Kit	Z16FMC Series
ZUSBSC00100ZACG	USB Smart Cable Accessory Kit	All Z8 Encore! FMC and Z16FMC Devices Listed
ZUSBOPTSC01ZACG	Opto-Isolated USB Smart Cable Accessory Kit	All Z8 Encore! FMC and Z16FMC Devices Listed
ZENETSC0100ZACG	Ethernet Smart Cable Accessory Kit	All Z8 Encore! FMC and Z16FMC Devices Listed





*Non-Volatile Data Storage; this space may be used similarly to EE PROM.

ZNEO® Z16F 16-Bit Microcontrollers

ZNEO Z16F 16-BIT SINGLE-CYCLE CISC MICROCONTROLLER SOLUTION

The Zilog Z16F 16-bit CISC microcontroller handily outperforms RISC microcontrollers in its class. The Z16F boasts a unique architecture that provides the power, punch, and performance of a 32-bit, with the code, current efficiency, and cost of a 16-bit. The ZNEO Z16F CPU boasts a highly optimized instruction set that achieves more work done per clock cycle, with less code space and lower overhead than competing architectures. This powerful, yet simple core with sixteen 32-bit general-purpose registers supports complex CISC addressing modes and a single-cycle instruction execution that includes frame pointer support, multi-bit shift, and multi-register push/pop, as well as performance enhancing instructions such as Link and Unlink for lowering overhead. Powerful signed and unsigned math operations include 32x32 multiply and 64/32 divide operations.

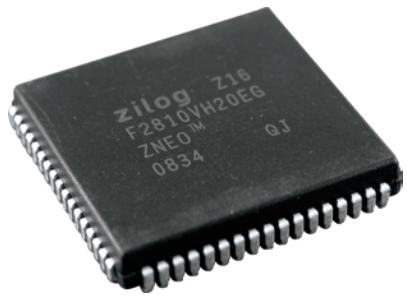
A rich array of intelligent peripherals and analog features make this microcontroller suitable for a large number of applications from security panels to industrial and motor control. These additional features include advanced DMA w/Bandwidth Control, 10-bit ADC with time tag that supports simultaneous conversions, and 3-Phase 12-bit PWM output with fault protection for motor control and digital power management.

ZNEO Z16F 16-BIT FLASH MICROCONTROLLERS

Device	CPU Core	Max. Speed (MHz)	Flash (KB)	SRAM (B)	External Memory	GPIO	DMA Channels	16-Bit Timers	WDT	10-Bit A/D Channels	Comp.	POR/ VBO/LVD	Internal Oscillator (MHz)	Peripheral Interfaces	Other Features	Operating Range	Package
Z16F2810	ZNEO Single- Cycle CISC	20	128	4K	–	60, 46	4	3	√	12	1	POR / VBO	5.5	2 LIN UARTs, ESPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown, I²S I/F SAR ADC, Debug: Instruction Execution Trace	2.7V to 3.6V –40C to 125C	64-pin LQFP, 68-pin PLCC, 80-pin QFP
Z16F2811	ZNEO Single- Cycle CISC	20	128	4K	16 MB	76, 60	4	3	√	12	1	POR / VBO	5.5	2 LIN UARTs, ESPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown, I²S I/F SAR ADC, Debug: Instruction Execution Trace	2.7V to 3.6V –40C to 125C	100-pin LQFP, 80-pin QFP
Z16F6411	ZNEO Single- Cycle CISC	20	64	4K	16 MB	76, 60	4	3	√	12	1	POR / VBO	5.5	2 LIN UARTs, ESPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown, I²S I/F SAR ADC, Debug: Instruction Execution Trace	2.7V to 3.6V –40C to 125C	100-pin LQFP, 80-pin QFP
Z16F3211	ZNEO Single- Cycle CISC	20	32	2K	16 MB	76, 60	4	3	√	12	1	POR / VBO	5.5	2 LIN UARTs, ESPI, I²C	6-channel 12-Bit Motor Control PWMs, Op Amp, Fault Shutdown, I²S I/F SAR ADC, Debug: Instruction Execution Trace	2.7V to 3.6V –40C to 125C	100-pin LQFP, 80-pin QFP

ZNEO Z16F DEVELOPMENT KITS

Part Number	Item	Device Compatibility
Z16F2800100ZCOG	ZNEO Z16F Series Development Kit	All ZNEO Devices Listed
ZUSBOPTSC01ZACG	Opto-Isolated USB Smart Cable Accessory Kit	All ZNEO Devices Listed
ZUSBSC00100ZACG	USB Smart Cable Accessory Kit	All ZNEO Devices Listed
ZENETSC0100ZACG	Ethernet Smart Cable Accessory Kit	All ZNEO Devices Listed



Classic Microcontrollers

Z8® OTP MICROCONTROLLERS														
Device	CPU Core	Speed (MHz)	WDT	OTP (KB)	RAM (Bytes)	8-Bit Timers	I/O Lines	Interrupts	Peripherals	Comm. Interfaces	Low Noise	POR	Operating Voltage	Temp Range	Package
Z86733	Z8	12, 16	√	8	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86743	Z8	12	√	8	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 44 -pin PLCC, LQFP
Z86E02	Z8	8	√	0.5	61	1	14	5	2 Comparators	-	√	√	4.5V to 5.5V	–40C to 105C	18-pin PDIP, SOIC, 20-pin SSOP
Z86E03	Z8	8, 12	√	0.5	61	1	14	6	2 Comparators	-	√	√	4.5V to 5.5V	0C to 70C	18-pin DIP, SOIC
Z86E04	Z8	8, 12	√	1	125	2	14	6	2 Comparators	-	√	√	4.5V to 5.5V 3.0V to 5.5V	–40C to 105C 0C to 70C	18-pin PDIP, SOIC, 20-pin SSOP
Z86E06	Z8	8	√	1	125	2	14	5	2 Comparators	-	√	√	4.5V to 5.5V	0C to 70C	18-pin DIP, SOIC
Z86E08	Z8	12	√	2	125	2	14	6	2 Comparators	-	√	√	4.5V to 5.5V 3.0V to 5.5V	–40C to 105C 0C to 70C	18-pin DIP, SOIC, 20-pin SSOP
Z86E30	Z8	16	√	4	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, PLCC, SOIC
Z86E31	Z8	8, 16	√	2	125	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, PLCC, SOIC
Z86E33	Z8	12	√	4	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, PLCC, SOIC
Z86E34	Z8	12, 16	√	16	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, PLCC, SOIC
Z86E40	Z8	16	√	4	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 44-pin PLCC, LQFP
Z86E43	Z8	12	√	4	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 44-pin PLCC, LQFP
Z86E44	Z8	12	√	16	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 44-pin PLCC, LQFP
Z86E61	Z8	16	-	16	236	2	32	6	-	UART	-	-	4.5V to 5.5V	0C to 70C	40-pin PDIP, 44-pin PLCC, LQFP
Z86E63	Z8	16	-	16	236	2	32	6	-	UART	-	-	4.5V to 5.5V	0C to 70C	40-pin PDIP, 44-pin PLCC, LQFP
Z86E83	Z8	16	-	4	237	2	21	6	2 Comparators/ADC	-	√	√	4.5V to 5.5V 3.0V to 5.5V	–40C to 105C 0C to 70C	28-pin PDIP, PLCC, SOIC

Z8® LOW VOLTAGE MICROCONTROLLERS														
Device	CPU Core	Speed (MHz)	WDT	ROM (KB)	RAM (Bytes)	8-Bit Timers	I/O Lines	Interrupts	Other Features	Comm. Interfaces	Low Noise	POR	Operating Voltage	Temp Range	Package
Z86L02	Z8	8	√	0.5	61	1	14	5	2 Comparators, LV Protect	-	√	√	2.0V to 3.9V	0C to 70C	18-pin PDIP, SOIC, 20-pin SSOP
Z86L04	Z8	8	√	1	125	2	14	5	2 Comparators, LV Protect	-	√	√	2.0V to 3.9V	0C to 70C	18-pin PDIP, SOIC, 20-pin SSOP
Z86L06	Z8	8	√	1	125	2	14	5	2 Comparators	-	√	√	2.0V to 3.6V	0C to 70C	18-pin PDIP, SOIC
Z86L08	Z8	8	√	2	125	2	14	5	2 Comparators, LV Protect	-	√	√	2.0V to 3.9V	0C to 70C	18-pin PDIP, SOIC, 20-pin SSOP
Z86L16	Z8	8	√	1	125	2	14	5	2 Comparators	-	√	√	2.0V to 3.6V	0C to 70C	18-pin PDIP, SOIC
Z86L43	Z8	8	√	4	236	2	32	5	2 Comparators	-	√	√	2.0V to 4.5V	0C to 70C	40-pin PDIP, 44-pin LQFP, PLCC
Z87L16	Z8	8	√	1	124	2	12	5	1 Comparator, LV Protect	PN Modulator	√	√	2.4V to 4.6V	0C to 70C	18-pin SOIC
Z87L33	Z8	4	√	4	237	2	24	5	2 Comparators	-	√	√	2.7V to 4.5V	0C to 70C	28-pin PDIP, SOIC

Z8 ROM & ROMless Microcontrollers

Z8® ROM MICROCONTROLLERS															
Device	CPU Core	Speed (MHz)	WDT	ROM (KB)	RAM (Bytes)	8-Bit Timers	I/O Lines	Interrupts	Other Features	Comm. Interfaces	Low Noise	POR	Operating Voltage	Temp Range	Package
Z86233	Z8	16	√	8	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86243	Z8	16	√	8	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 44-pin LQFP, PLCC
Z86C02	Z8	8	√	0.5	61	1	14	5	2 Comparators, LV Protect	-	√	√	3.0V to 5.5V	–40C to 105C	18-pin PDIP, SOIC, 20-pin SSOP
Z86C03	Z8	8	√	0.5	60	1	14	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	18-pin PDIP, SOIC
Z86C04	Z8	12	√	1	125	2	14	6	2 Comparators, LV Protect	-	√	√	3.0V to 5.5V	–40C to 125C	18-pin PDIP, SOIC, 20-pin SSOP
Z86C08	Z8	12	√	2	125	2	14	6	2 Comparators, LV Protect	-	√	√	3.0V to 5.5V 3.5V to 5.5V	–40C to 125C –40C to 150C	18-pin PDIP, SOIC, 20-pin SSOP
Z86C30	Z8	12	√	4	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86C31	Z8	12	√	2	125	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86C32	Z8	8	√	2	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC
Z86C33	Z8	12, 16	√	4	237	2	24	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86C34	Z8	16	√	16	237	2	24	6	2 Comparators	UART	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86C36	Z8	16	√	64	237	2	24	6	2 Comparators	UART	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC
Z86C40	Z8	12	√	4	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 40-pin PLCC,
Z86C43	Z8	12, 16	√	4	236	2	32	6	2 Comparators	-	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 40-pin PLCC, LQFP
Z86C44	Z8	16	√	16	236	2	32	6	2 Comparators	UART	√	√	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 40-pin PLCC, LQFP
Z86C61	Z8	16	-	16	256	2	32	6	-	UART	-	-	3.0V to 5.5V	0C to 70C	40-pin PDIP, 40-pin PLCC, LQFP
Z86C62	Z8	16	-	16	256	2	52	6	-	UART	-	-	3.0V to 5.5V	0C to 70C	64-pin PDIP, 68-pin PLCC
Z86C63	Z8	16	-	32	256	2	32	6	-	UART	-	-	3.0V to 5.5V	–40C to 105C	40-pin PDIP, 40-pin PLCC, LQFP
Z86C65	Z8	16	-	32	237	2	22	3	-	-	√	-	3.0V to 5.5V	0C to 70C	28-pin PDIP
Z86C83	Z8	16	√	4	237	2	21	6	2 Comparators/ ADC	-	√	√	3.0V to 5.5V	–40C to 105C	28-pin PDIP, SOIC, PLCC

Z8® ROMLESS MICROCONTROLLERS															
Device	CPU Core	Speed (MHz)	WDT	ROM (KB)	RAM (Bytes)	8-Bit Timers	I/O Lines	Interrupts	Other Features	Comm. Interfaces	Low Noise	POR	Operating Voltage	Temp Range	Package
Z86C90	Z8	12, 16	√	ROMless	236	2	32	6	2 Comparators	-	-	√	3.0V to 5.5V	–40C to 105C	40-pin DIP, 44-pin PLCC, LQFP
Z86C91	Z8	16	-	ROMless	236	2	32	6	-	UART	-	-	4.5V to 5.5V	–40C to 105C	40-pin DIP, 44-pin PLCC, LQFP
Z86C93	Z8	20, 33	-	ROMless	236	3	24	6	MUL/DIV	UART	-	-	3.3V to 5.5V	0C to 70C	40-pin DIP, 44-pin PLCC, LQFP
Z86C96	Z8	20	-	ROMless	236	2	52	6	-	UART	-	-	3.0V to 5.5V	0C to 70C	64-pin DIP, 68-pin PLCC

Classic Microprocessors

Z180 MICROPROCESSORS												
Device	Core CPU	Speed (MHz)	RAM (KB)	I/O Lines	Interrupts	Timers	WDT	Other Features	Comm. Interfaces	Operating Voltage	Temp Range	Package
Z80180	Z180	6, 8, 10	-	-	-	(2) 16-Bit	-	1MB MMU, 2 DMAs, HW multiply for signal processing apps, embedded Internet SW suite	CSIO, 2 UARTs	5.0V	-40C to 85C	68-pin PLCC, 80-pin QFP, 64-pin PDIP
Z8S180/ Z8L180	S180	10, 20, 33 (20)	-	-	-	(2) 16-Bit	-	1MB MMU, 2 DMAs, HW multiply for signal processing apps, embedded Internet SW suite	CSIO, 2 UARTs	5.0V (3.3V)	-40C to 85C (0C to 70C)	68-pin PLCC, 80-pin QFP, 64-pin PDIP
Z80181	Z180	10	-	16	-	(2) 8-Bit, (2) 16-Bit	-	Z180 Megacell, SCC, HW multiply for signal processing apps, embedded Internet SW suite	2 UARTs, 1 SCC, CSIO	5.0V	-40C to 100C	100-pin QFP
Z80182/ Z8L182	S180	16, 20, 33 (20)	-	24	-	(2) 16-Bit	-	Z180 Megacell, 2 ESCC ch, 16550 MIMIC, HW multiply for signal processing apps, embedded Internet SW suite	2 UARTs, 2 SCCs , CSIO	5.0V (3.3V)	-40C to 85C	100-pin QFP, LQFP
Z80185	S180	20, 33	-	15	-	(2) 16-Bit	√	32 KB ROM, 4 CTC, 512 KB Baud Rate	2 UARTs	5.0V	0C to 70C	100-pin QFP
Z80195	S180	20, 33	-	15	-	(2) 16-Bit	√	ROMless, 4 CTC, 512 KB Baud Rate	2 UARTs	5.0V	0C to 70C	100-pin QFP

Z80® MICROPROCESSORS												
Device	Core CPU	Speed (MHz)	RAM (KB)	I/O Lines	Interrupts	Timers	WDT	Other Features	Comm. Interfaces	Operating Voltage	Temp Range	Package
Z84C00	Z80	6, 8, 10, 20	-	-	-	-	-	-	-	5.0V	-40C to 100C	40-pin PDIP, 44-pin LQFP, PLCC
Z84C15	Z80	6, 10, 16	-	16	-	4	√	3 Z80 Peripherals (SIO, PIO, CTC), WDT, CGC	SIO	5.0V	-40C to 100C	100-pin QFP, LQFP
Z84C20	Z80	6, 8, 10	-	16	-	-	-	Two 8-Bit Ports	-	5.0V	-40C to 100C	40-pin PDIP, 44-pin LQFP, PLCC
Z84C30	Z80	6, 8, 10	-	-	-	4	-	Four 8-Bit CTC, Selectable Trigger	-	5.0V	-40C to 100C	28-pin PDIP, 44-pin LQFP, PLCC
Z84C4X	Z80	6, 8, 10	-	-	-	-	-	SIO	SIO	5.0V	-40C to 100C	40-pin PDIP, 44-pin LQFP, PLCC
Z84C90	Z80	8, 10, 12	-	24	-	4	-	SIO, CTC, PIA, PIO	SIO	5.0V	-40C to 100C	84-pin PLCC, 100-pin LQFP

Digital Signal Processors (DSPs)												
Device	Core CPU	Speed (MHz)	Program Memory (KW)	RAM (KB)	I/O Lines	Interrupts	Timers	Other Features	Comm. Interfaces	Operating Voltage	Temp Range	Package
Z89273	16-Bit RISC 3X3 DSP	20	8 OTP	512	21	8	3/2 PWM	4-/8-Bit ADC/24b Accum/	SPI	4.5V to 5.5V	–40C to 85C	44-pin PLCC
Z89323	16-Bit RISC 3X3 DSP	20	8 ROM	512	32, 40, 32	8	3/2 PWM	4-/8-Bit ADC	SPI	4.5V to 5.5V	–40C to 85C	64-pin LQFP, 80-pin QFP, 68-pin PLCC
Z89371	16-Bit RISC 3X1 DSP	20	4 OTP	512	4	3	2	µ-Law compression	CODEC INTF	4.5V to 5.5V	–40C to 85C	40-pin PDIP, 44-pin PLCC, LQFP
Z89373	16-Bit RISC 3X3 DSP	20	8 OTP	512	32, 40, 32	8	3/2 PWM	4-/8-Bit ADC	SPI	4.5V to 5.5V	–40C to 85C	64-pin LQFP, 80-pin QFP, 68-pin PLCC

TV, SCC, and Modem Controllers

TV CONTROLLERS (CLOSED CAPTION / V CHIP / TIME OF DAY)												
Device	CPU	Speed (MHz)	ROM (KB)	RAM (Bytes)	Closed Captioning	On-Screen Display	V-Chip	Time of Day	Selectable I²C Address	Operating Voltage	Temp Range	Package
Z86129	Z8	12	3.7	-	√	√	√	√	-	4.75V to 5.25V	0C to 70C	18-pin PDIP, SOIC
Z86130	Z8	12	-	-	-	-	√	√	-	4.75V to 5.25V	0C to 70C	18-pin PDIP, SOIC
Z86131	Z8	12	-	-	-	-	-	√	-	4.75V to 5.25V	0C to 70C	18-pin PDIP, SOIC
Z86228	Z8	12	-	-	√	√	-	-	√	4.75V to 5.25V	0C to 70C	18-pin PDIP
Z86229	Z8	12	3.7	-	√	√	√	√	√	4.75V to 5.25V	0C to 70C	18-pin PDIP, SOIC
Z86230	Z8	12	-	-	-	-	√	√	√	4.75V to 5.25V	0C to 70C	18-pin PDIP, SOIC

SERIAL COMMUNICATION CONTROLLERS											
Device	Controller Type	Speed (MHz)	Integrated DMA Controller	Mbps (max.)	FIFO		Error Detection	Multi-Protocol Support	Dual Full-Duplex Channels	Operating Voltage	Temp Range	Package
Z80C30	SCC	8, 10	-	2.5	1 Tx (byte)	3 Rx (byte)	CRC-16 or CRC-CCITT	√	√	4.5V to 5.5V	0C to 70C	40-pin DIP 44-pin PLCC
Z85C30	SCC	8, 10, 16	-	4	1 Tx (byte)	3 Rx (byte)	CRC-16 or CRC-CCITT	√	√	4.5V to 5.5V	–40C to 100C	40-pin DIP 44-pin PLCC
Z80230	ESCC	10, 16	-	4	4 Tx (byte)	8 Rx (byte)	CRC-16 or CRC-CCITT	√	√	4.5V to 5.5V	0C to 70C	40-pin DIP 44-pin PLCC
Z85230	ESCC	8, 10, 16, 20	-	5	4 Tx (byte)	8 Rx (byte)	CRC-16 or CRC-CCITT	√	√	4.5V to 5.5V	–40C to 100C	40-pin DIP 44-pin PLCC
Z8523L	SCC	8, 10, 16	-	4.1	4 Tx (byte)	8 Rx (byte)	CRC-16 or CRC-CCITT	√	√	3.0V to 3.6V	0C to 70C –40C to 100C	44-pin PLCC
Z16C30	USC	10	-	10	32 Tx (byte)	32 Rx (byte)	CRC-32, CRC-16, CRC-CCITT	√	√	4.5V to 5.5V	–40C to 85C	68-pin PLCC 100-pin LQFP
Z16C32	IUSC	20	√	20	32 Tx (byte)	32 Rx (byte)	CRC-32, CRC-16, CRC-CCITT	√	-	4.5V to 5.5V	0C to 70C	68-pin PLCC, 80-QFP
Z16C35	IUSC	10, 16	√	4	1 Tx (byte)	3 Rx (byte)	CRC-16 or CRC-CCITT	√	√	4.75V to 5.25V	0C to 70C	68-pin PLCC
Z85233	EMSCC	10, 16, 20	-	4	4 Tx (byte)	8 Rx (byte)	CRC-16 or CRC-CCITT	√	-	4.5V to 5.5V	0C to 70C	44-pin PLCC, LQFP

MODEMS														
Device	Core	Speed (MHz)	WDT	OTP	Mbps (max.)	Interrupts	I/O Lines	Timers	Analog Features	Other Features	Comm Interfaces		Operating Voltage	Temp Range	Package
Z02205	N/A	16	Some firmware revisions	√	-	1	-	2	2 Comparators	AT Command Set, Hndshk, Guard Controls	DTE: Serial	DCE: Parallel	4.5V to 5.5V	0C to 70C	28-pin SOIC, PDIP
Z02201	N/A	12.29	-	-	-	-	-	-	12-Bit DAC, ADC	V.22bis, Parallel IF, DSP, AFE, OSC	DTE: Serial, Parallel	DCE: DAA	5.0V	–40C to 105C	44-pin PLCC
Z02922	N/A	12.29	-	-	-	-	-	-	12-Bit DAC, ADC	V.29QC, V.29, V.22bis, Parallel IF, DSP, AFE, OSC	DTE: Serial, Parallel	DCE: DAA	4.75V to 5.25V	0C to 70C	44-pin PLCC
Z02215	N/A	24.58	-	-	-	-	-	-	12-Bit DAC, ADC	Single Chip Modem, DSP, AFE, Controller, V.22bis, AT Command Set	DTE: Serial	DCE: DAA	4.5V to 5.5V	0C to 70C	44-pin PLCC

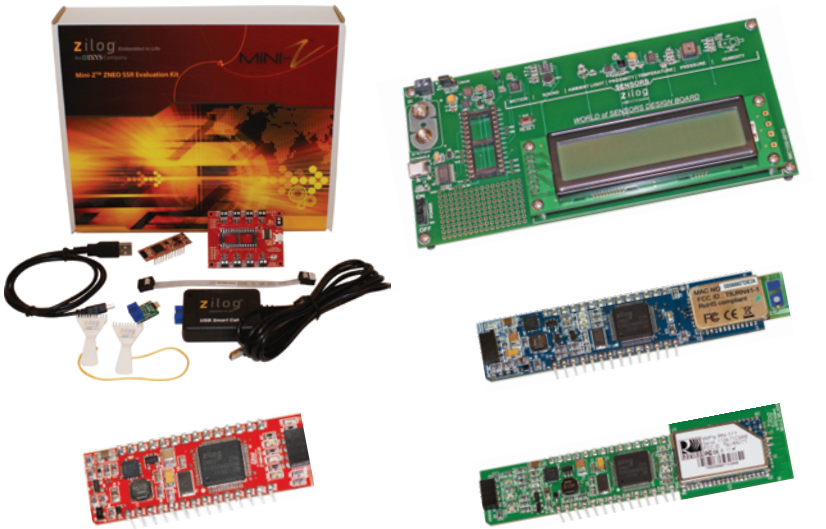
Zilog Reference Designs

Zilog reference designs are powerful, affordable, and loaded with functionality. If you're an engineer, student or hobbyist, Zilog's reference designs will allow you to quickly develop prototypes, proofs of concept and demos that will definitely up your cool factor! If you're an educator, you'll find the functionality you require for presenting a rich, hands-on learning experience.

MINI-Z™

MINI-Z REFERENCE DESIGNS									
Part Number	Item	Type	Available I/O	Operating Range	Other Features	Interface Connector	Firmware included	Board Dimensions	Development Kit
Z16F2800100MODG	Mini-Z ZNEO® 28-pin Module	28-pin Module	20	5.5V to 15V	-	Mini-Debug adapter	Console/Bootloader	2" x .7"	Z16F2800100KITG
Z16F28WF100MODG	Mini-Z WLAN 28-pin Module	28-pin Module	20	5.5V to 15V	WLAN Module	Mini-Debug adapter	Console/Bootloader	3.5" x .95"	Z16F28WF0100KITG
Z16F28ZP100MODG	Mini-Z Z-PAN™ 28-pin Module	28-pin Module	20	5.5V to 15V	BlueTooth Module	Mini-Debug adapter	Console/Bootloader	-	Z16F28ZP100KITG
Z16SSR00100DBDG	Mini-Z SSR Design Board	28-pin Socket	N/A	5.5V to 15V	8 Solid State Relays	USB UART	N/A	2.85" x 2.20"	Z16SSR00100KITG
Z16F28WS100ZRDG	World of Sensors (WoS) Design Board	28-pin Socket	N/A	5.5V to 15V	7 Sensors	USB UART	N/A	3.3" x 7"	Z16F28WS100ZKITG

MINI-Z DEVELOPMENT KITS		
Part Number	Item	Description
Z16F28ZP100KITG	Mini-Z ZPAN SSR Kit	Mini-Z ZPAN 28-Pin Module Mini-Z Solid State Relay Design Board USB Smart Cable Mini-Z to standard debug adapter USB cable (A male to Mini-B male) DIP Package Extractor
Z16SSR00100KITG	Mini-Z ZNEO SSR Kit	Mini-Z Solid State Relay Design Board USB Smart Cable Mini-Z to standard debug adapter USB cable (A male to Mini-B male) DIP Package Extractor
Z16F28WF100KITG	Mini-Z WLAN SSR Kit	Mini-Z WLAN 28-Pin Module Mini-Z Solid State Relay Design Board USB Smart Cable Mini-Z to standard debug adapter USB cable (A male to Mini-B male) DIP Package Extractor
Z16F28WS100KITG	World of Sensors Design Kit	World of Sensors Design Board Mini-Z ZNEO Module USB Smart Cable Mini-Z to Smart Debug Cable adapter USB cable (A to Mini-B Male) DIP Package Extractor



ZMOTION®

ZMOTION REFERENCE DESIGNS							
Part Number	Item	Detection Pattern	Modes	White light Immunity	Operating Range	Other Features	Interface Connector
ZMOTIONL100ZRDG	ZMOTION Motion Sensing and LED Control Reference Design	Variable	Occupancy	N/A	3V (2 AA Batteries)	10 bright LEDs	Debug Connector
ZMOTIONS200ZRDG	ZMOTION Intrusion Detection	Variable (Lens dependant)	Intrusion	> 12,000 LUX	12V	Anti-mask, Auto LED	Terminal Block

ZAURA™

ZAURA REFERENCE DESIGNS								
Part Number	Item	Mount	Available I/O	Operating Range	Other Features	Firmware included	Board Dimensions	Development Kit
ZAURA868100MODG	ZAURA RF 868 MHz Module	Through hole	25	868 MHz (ISM band)	2 UART	Console	1.61" x 1.02"	ZAURA868100KITG
ZAURA915100MODG	ZAURA RF 915 MHz Module	Through hole	25	915 MHz (ISM band)	2 UART	Console	1.61" x 1.02"	ZAURA915100KITG

ZAURA RF WIRELESS						
Part Number	Description	Other Features	Design Files	Operating Range	Firmware Included	Development Kit
ZRD0019F868ZRD	AC Power Switching Relay with ZAURA Control	Remote Control	Included	868MHz(ISM band)	Yes	ZAURA868100KITG
ZRD0011F868ZRD	Fluorescent Ballast with ZAURA Control	Remote Control	Included	868MHz(ISM band)	Yes	ZAURA868100KITG
ZRD0010F868ZRD	LED Driver with ZAURA Control	Remote Control	Included	868MHz(ISM band)	Yes	ZAURA868100KITG

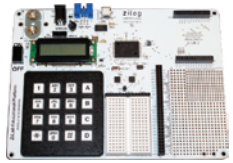
ZAURA DEVELOPMENT KITS All development kits include Two (2) ZAURA RF Wireless Development Boards, Two (2) USB (A to Mini-B) Cables, and Four (4) AA Batteries		
Part Number	Item	Description
ZAURA868100KITG	ZAURA RF Wireless 868 MHz Module Development Kit	Two (2) ZAURA RF Wireless 868 MHz Modules
ZAURA915100KITG	ZAURA RF Wireless 915 MHz Module Development Kit	Two (2) ZAURA RF Wireless 915 MHz Modules

BUCK CONVERTER BATTERY CHARGER						
Part Number	Description	Other Features	Design Files	Battery Supported	Firmware Included	Development Kit
ZRD0013CHRGZRD	Buck Converter Battery Charger Reference Design	UART Support	Included	1.3V to 4.0V	Yes	ZUSBSC0100ZACG

zilog
Educational Platform
Design with Freedom

EDUCATIONAL PLATFORM		
Part Number	Item	Description
EZEDU16F100MDSG	Educational Platform	Zilog Educational Platform Universal Wall power adapter 9V @ 2.0A 9V battery

EDUCATIONAL PLATFORM DEVELOPMENT KIT		
Part Number	Item	Description
EZEDU16F100KITG	Educational Platform Development Kit	Zilog Educational Platform System ZED Test Shield USB Smart Cable for debugging purposes USB (A to Mini-B) Cable for console control Universal Wall Power Adapter 9V @ 2.0A 9V Battery Flash Drive containing command shell source code and required drivers



APPLICATION SPECIFIC MODULES			
Part Number	Item	Type	Features
EZEDUTS0100ZACG	ZED Test Shield	GPIO Testing Device	LED Matrix (can be used to teach binary math)
EZEDUWL0100ZACG	WLAN 802.11b/g ZED Shield	RN-171 Module	802.11 b/g (WiFi)
EZEDUZP0100ZACG	Z-PAN 2.4 MHz 802.15 ZED Shield	RN-41 Module	802.15 (Bluetooth)
EZEDURF0100ZACG	RF 915MHz ZED Shield	902-928MHz Radio	Mesh Networking
EZEDUWS0100ZACG	World of Sensors ZED Shield	Sensor Interface	Humidity, Proximity, Temperature, Motion, Ambient Light, Sound, Pressure
EZEDUSD0100ZACG	USB/SD ZED Shield	Add removable storage to Zilog MCU projects	Used to teach USB and Secure Digital Protocols

Part Number Designator

Device Example: Z51F6412ATXTR

Core Technology
Z51F : Z8051 8-bit core

Memory Size
08 : 8KB Flash
Range : 1–128K Flash

Peripheral Set
2A : Z8 Encore! XP
Examples : 1A, 30, 22, 33

Package Set

HC : 10-pin SSOP
SK : 32-pin SOP

FN : 44-pin MQFP
AT : 80-pin LQFP
AR : 64-pin LQFP

RH : 20-pin TSSOP
RJ : 28-pin TSSOP
QU : 32-pin QFN

Temperature Grade
X : (–40°C to +85°C)

Tape and Reel
Optional : 00TR/TR

Part Number Designator

Device Example: Z8F082ASJ020SG2156TR

Core Technology
Z8F : Z8 Encore!/Z8 Encore! XP 8-bit core
Z16F : ZNEO 16-bit core
Z8FMC : Z8 Encore! Motor Control
eZ80 : eZ80Acclaim!/eZ80AcclaimPlus!
Z16FMC : Flash Motor Control

Memory Size
08 : 8K Flash
Range : 1–128K Flash

Peripheral Set
2A : Z8 Encore! XP
Examples : 1A, 30, 22, 23

Package Set

PB : 8 pin DIP
PH : 20 pin DIP
PJ : 28 pin DIP
PM : 40 pin DIP

SB : 8 pin SOIC
SJ : 28 pin SOIC
SH : 20 pin SOIC

HH : 20 pin SSOP
HJ : 28 pin SSOP
VN : 44 pin PLCC
VS : 68 pin PLCC

QB : 8 pin QFN
QH : 20 pin QFN
QN : 44 pin QFN
QJ : 28 pin QFN
QK : 32 pin QFN

AN : 44 pin LQFP
AR : 64 pin LQFP
AT : 80 pin LQFP
AL : 100 pin LQFP
AK : 32 pin LQFP

Speed Grade
20 MHz
05 MHz

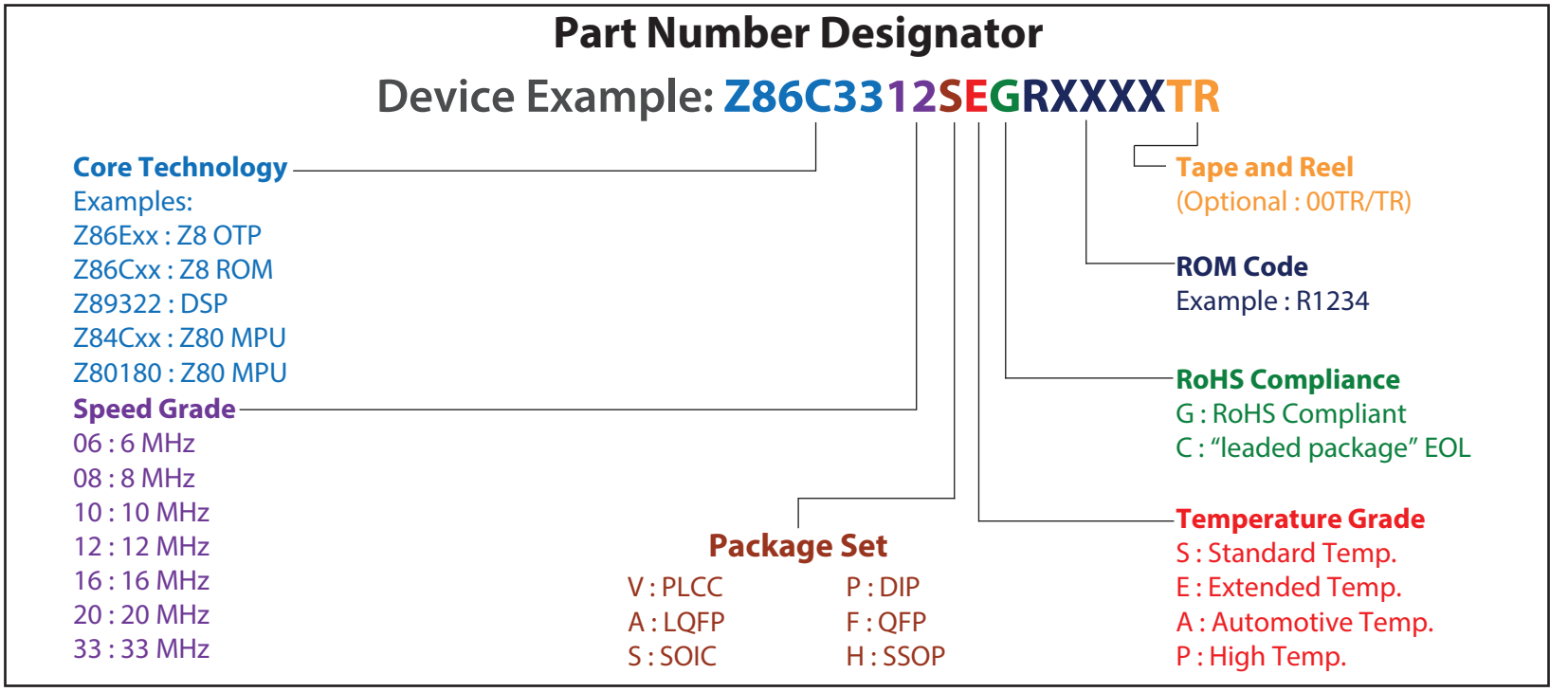
Temperature Grade
S : Standard Temp.
E : Extended Temp.
A : Automotive Temp.

RoHS Compliance
G : RoHS Compliant
C : “leaded package” EOL

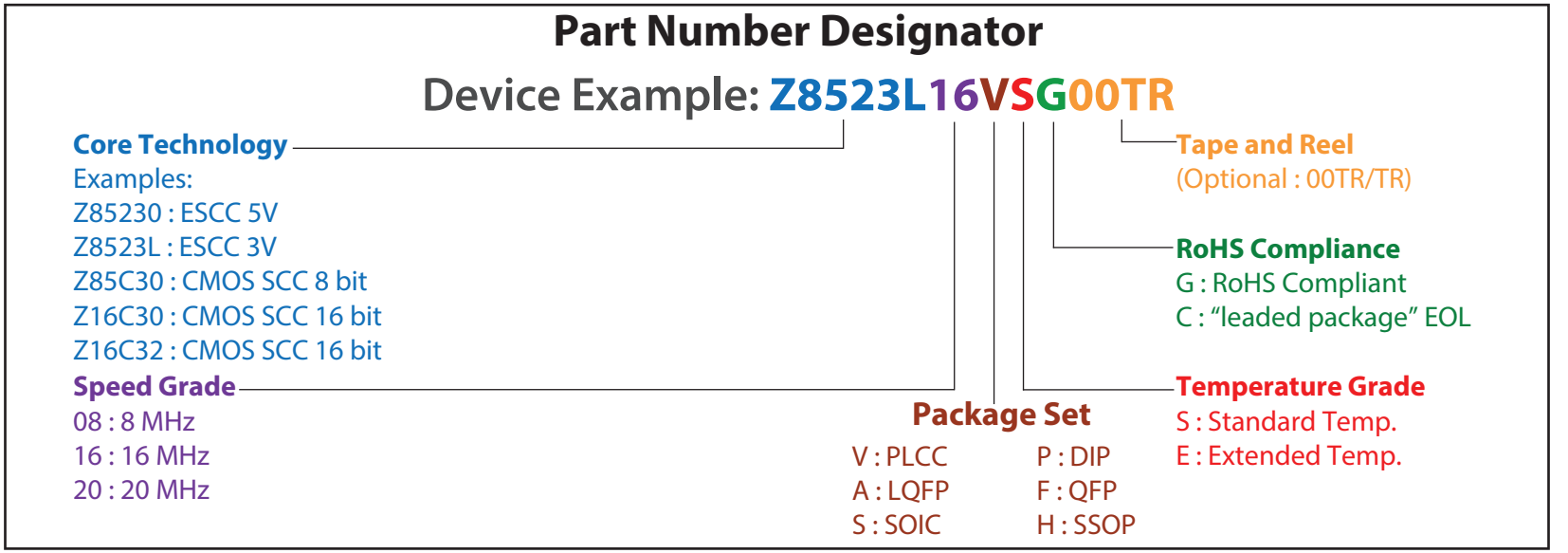
Die Rev. / Custom
2156 : Die Rev.

Tape and Reel
(Optional : 00TR/TR)

Part Number Designator for Classic Microcontrollers and Microprocessors



Part Number Designator for Classic Devices and Serial Communication Controllers



Development Tools

ZILOG DEVELOPER STUDIO II with FULL ANSI C COMPILER (FREE)

PURPOSE

Create, Edit, Compile, Debug code for Zilog Microcontrollers.

INCLUDES:

ZDS II Software (free download) Includes:

- C Compiler
- Assembler
- Project Manager
- Editor
- Linker
- Debugger
- Example Code

DESCRIPTION

The Zilog Developer Studio II (ZDS II) is a royalty-free, high-end toolset that runs on Windows XP/Vista/Win 7. Source code editing, debugging, and program management are all easily accessible from a single fully-featured Integrated Development Environment (IDE).

The ZDS combines project management, source code editing, and program debugging in a single tightly-integrated environment. The New Project Wizard is designed so that both beginners and advanced users can sit down and quickly begin a new code project faster than ever before!

FEATURES

- Full ANSI Optimizing C Compiler
- Macro Assembler
- Editor:

  To write code faster:
  - Auto Completion
  - Call Tips
  - Auto Indentation
  - Multiple Clipboards
  - Line and Block Comments
  - Abbreviation and Expansion
  - Auto Insertion of Braces and Quotes
  - Long Line Indicator
  - UNICODE Support

  To read code faster:
  - Auto Syntax Styler
  - Code Folding Margin
  - Line Number Margin
  - Type info Tips
  - Highlighting and Finding matched braces
  - Matching Preprocessor Conditional macros
  - Wrap Long Lines
  - Indentation Guides
  - Zoom In/Out

  To navigate intelligently:
  - Bookmarks
  - Opening included file
  - Highlighting PC Line

  To identify and correct mistakes:
  - Mismatched brace highlighting
  - Auto conversion of . to ->

- Full ANSI Optimizing C Compiler
- Project Manager
- Workspace
- Source-Level Debugger with following features:
  - Simulator debugging
  - Real-time target debugging
  - Flash programming
  - Debug Windows: Registers, Watch Variables, Interleave source disassembly window
  - USB and Ethernet Debug Interface
  - UART output window
  - Breakpoint management
- Command Script & Command Line Mode
- Documentation and Online Help

ZILOG DEVELOPMENT KITS with ZILOG DEVELOPER STUDIO II and FULL ANSI C COMPILER

PURPOSE

Evaluate and Develop with Zilog Microcontrollers.

INCLUDES:

- Full version of ZDS II (see above)
- Development Board
- USB Smart Cable
- Full documentation and sample code
- Free RTOS and TCP/IP Stack Object Code library (eZ80Acclaim! and AcclaimPlus! only)
- Quick Start Guide

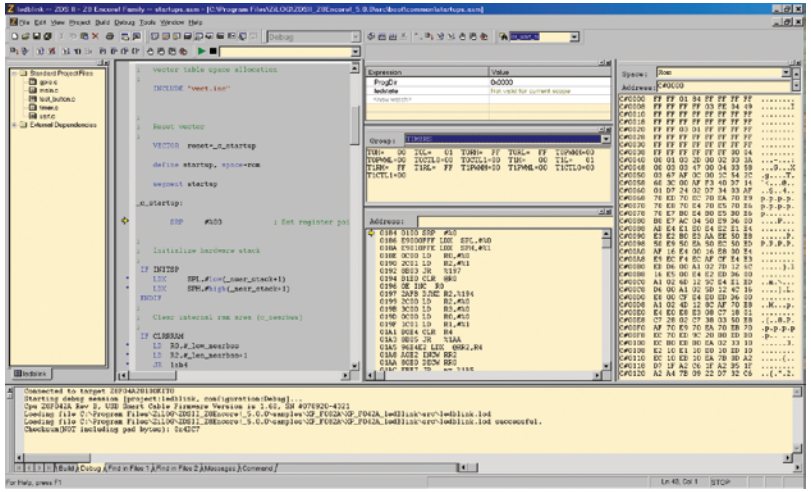
DESCRIPTION

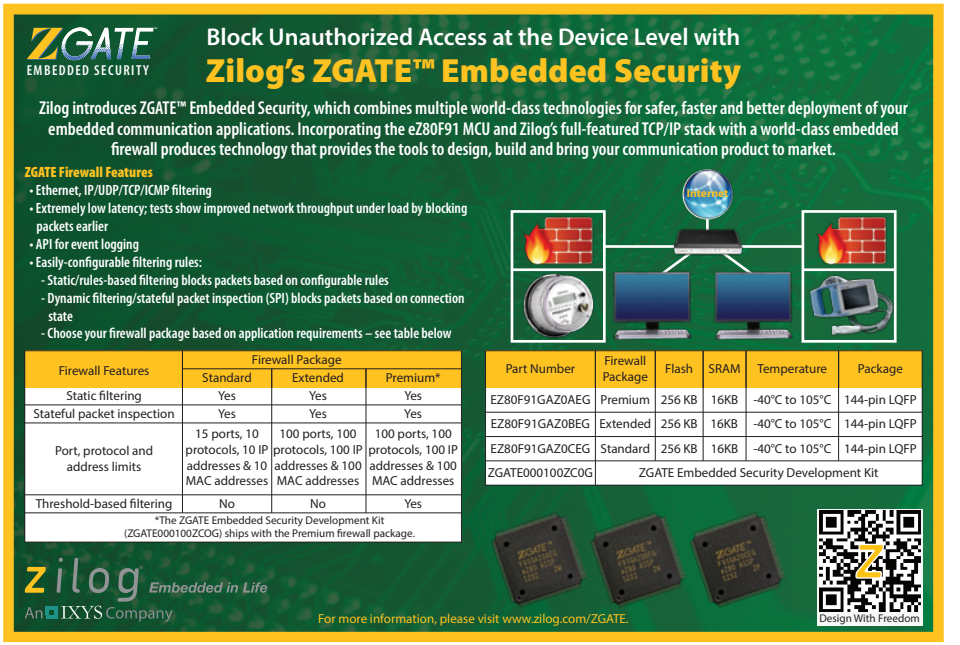
Zilog Development Kits enable an engineer to fully evaluate the features of the Zilog family of microcontrollers. By using the Development Kit, an engineer can develop and evaluate a new application before building any custom hardware.

Compatible with Windows XP/Vista/Win 7.

FEATURES

- Development board
- Stand-alone Evaluation, and Target System debug
- Ethernet Interface (eZ80Acclaim! and AcclaimPlus! only)
- Free Zilog Real-Time Kernal Object code - RZK (eZ80Acclaim! and AcclaimPlus! only)
- Free Full TCP-IP Stack Object code - ZTP (eZ80Acclaim! and AcclaimPlus! only)
- Peripheral, GPIO, and ADC Interface
- Full device level simulation and debug
- Prototyping area (on some kits)
- Full development board schematics
- Sample Software Projects



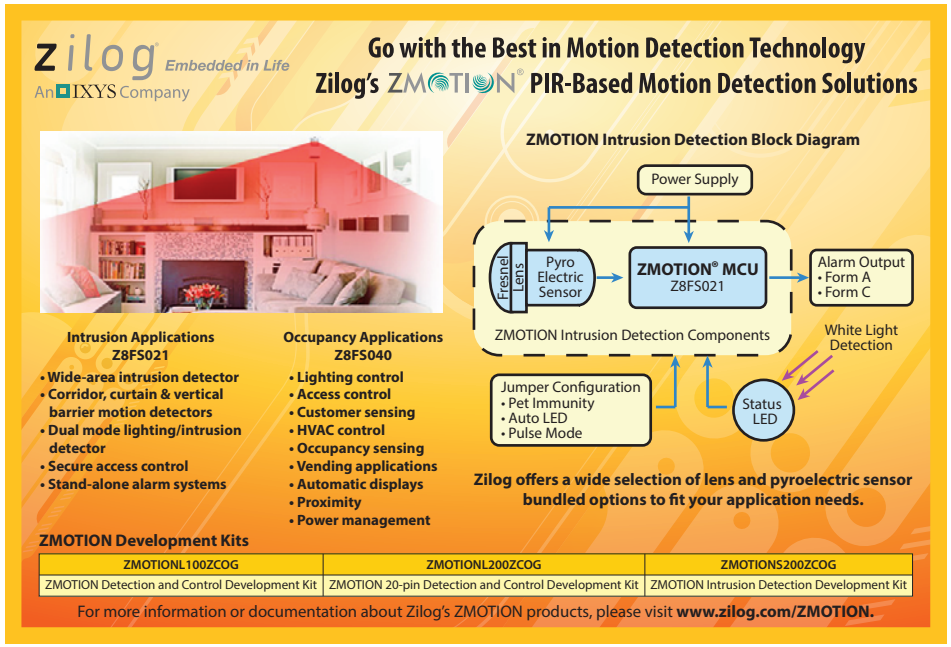


ZGATE000100ZCOG

Zilog's ZGATE™ Embedded Security Development Kit provides a general-purpose platform for creating a design based on an eZ80F91 microcontroller that has been preprogrammed with a ZGATE security code. The eZ80F91 MCU is a member of Zilog's eZ80AcclaimPlus! family of products, which offer on-chip EMACs and Flash memory.

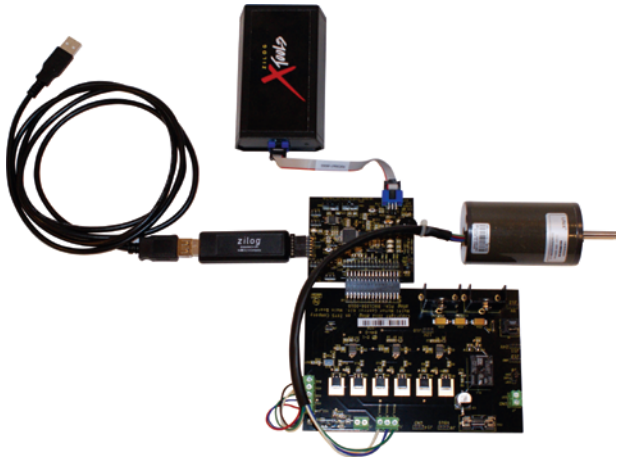
Z51F6412000ZCOG

The Z51F6412 Development Kit is a complete development solution that provides all of the necessary hardware and software tools to develop your application with the Z51F6412 MCU, a member of Zilog's Z8051 family of products.



ZMOTIONL200ZCOG

Zilog's ZMOTION® 20-Pin Detection and Control Development Kit provides a general-purpose platform for developing your application with the ZMOTION Detection and Control Family of microcontrollers featuring Zilog's passive infrared (PIR) technology. The family includes a series of high-performance microcontrollers with integrated motion detection algorithms.



Z16FMC28200KITG

Zilog's Z16FMC Series Motor Control Development Kit includes all of the components necessary to begin development with the Z16FMC Motor Control MCU. The development kit features a Motor Control Modular Development System (MC MDS) module mounted on a 3-Phase Motor Control Application Board. A 24 VDC, 3200 RPM 3-phase motor is included with the kit.

For more information about these and other Zilog Innovative Solutions, please visit **www.zilog.com**.

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