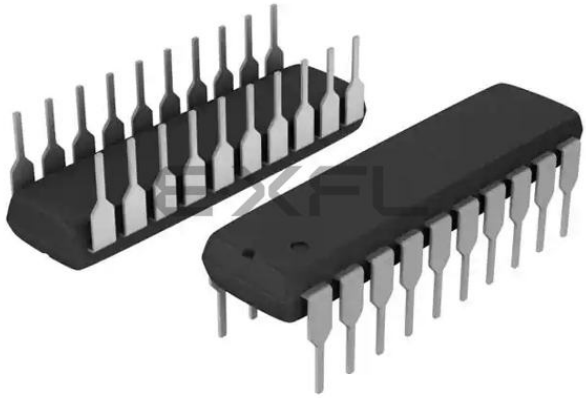

**Welcome to E-XFL.COM**

## 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 "Embedded - Microcontrollers"

| Details | |
|---|---|
| Product Status | Obsolete |
| Core Processor | eZ8 |
| Core Size | 8-Bit |
| Speed | 5MHz |
| Connectivity | IrDA, UART/USART |
| Peripherals | Brown-out Detect/Reset, LED, POR, PWM, WDT |
| Number of I/O | 16 |
| Program Memory Size | 2KB (2K x 8) |
| Program Memory Type | FLASH |
| EEPROM Size | - |
| RAM Size | 512 x 8 |
| Voltage - Supply (Vcc/Vdd) | 2.7V ~ 3.6V |
| Data Converters | - |
| Oscillator Type | Internal |
| Operating Temperature | -40°C ~ 105°C (TA) |
| Mounting Type | Through Hole |
| Package / Case | 20-DIP (0.300", 7.62mm) |
| Supplier Device Package | - |
| Purchase URL | https://www.e-xfl.com/product-detail/zilog/z8f0213ph005eg |

Warning: DO NOT USE THIS PRODUCT IN LIFE SUPPORT SYSTEMS.

## LIFE SUPPORT POLICY

ZILOG'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE PRESIDENT AND GENERAL COUNSEL OF ZILOG CORPORATION.

### As used herein

Life support devices or systems are devices which (a) are intended for surgical implant into the body, or (b) support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in a significant injury to the user. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system or to affect its safety or effectiveness.

### Document Disclaimer

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returns FFH. Writing to these unimplemented Program Memory addresses produces no effect. Table 6 describes the Program Memory maps for the Z8 Encore! XP F0823 Series products.

Table 6. Z8 Encore! XP F0823 Series Program Memory Maps

| Program Memory Address (Hex) | Function |
|---|---|
| Z8F0823 and Z8F0813 Products | |
| 0000–0001 | Flash Option Bits |
| 0002–0003 | Reset Vector |
| 0004–0005 | WDT Interrupt Vector |
| 0006–0007 | Illegal Instruction Trap |
| 0008–0037 | Interrupt Vectors* |
| 0038–003D | Oscillator Fail Traps* |
| 003E–0FFF | Program Memory |
| Z8F0423 and Z8F0413 Products | |
| 0000–0001 | Flash Option Bits |
| 0002–0003 | Reset Vector |
| 0004–0005 | WDT Interrupt Vector |
| 0006–0007 | Illegal Instruction Trap |
| 0008–0037 | Interrupt Vectors* |
| 0038–003D | Oscillator Fail Traps* |
| 003E–0FFF | Program Memory |
| Z8F0223 and Z8F0213 Products | |
| 0000–0001 | Flash Option Bits |
| 0002–0003 | Reset Vector |
| 0004–0005 | WDT Interrupt Vector |
| 0006–0007 | Illegal Instruction Trap |
| 0008–0037 | Interrupt Vectors* |
| 0038–003D | Oscillator Fail Traps* |
| 003E–07FF | Program Memory |

Note: *See the Trap and Interrupt Vectors in Order of Priority section on page 55 for a list of the interrupt vectors and traps.

Table 8. Register File Address Map (Continued)

| Address (Hex) | Register Description | Mnemonic | Reset (Hex) | Page No. |
|---|---|---|---|---|
| eZ8 CPU | | | | |
| FFC | Flags | — | XX | Refer to the eZ8 CPU Core User Manual (UM0128) |
| FFD | Register Pointer | RP | XX | |
| FFE | Stack Pointer High Byte | SPH | XX | |
| FFF | Stack Pointer Low Byte | SPL | XX | |

Note: XX=Undefined.

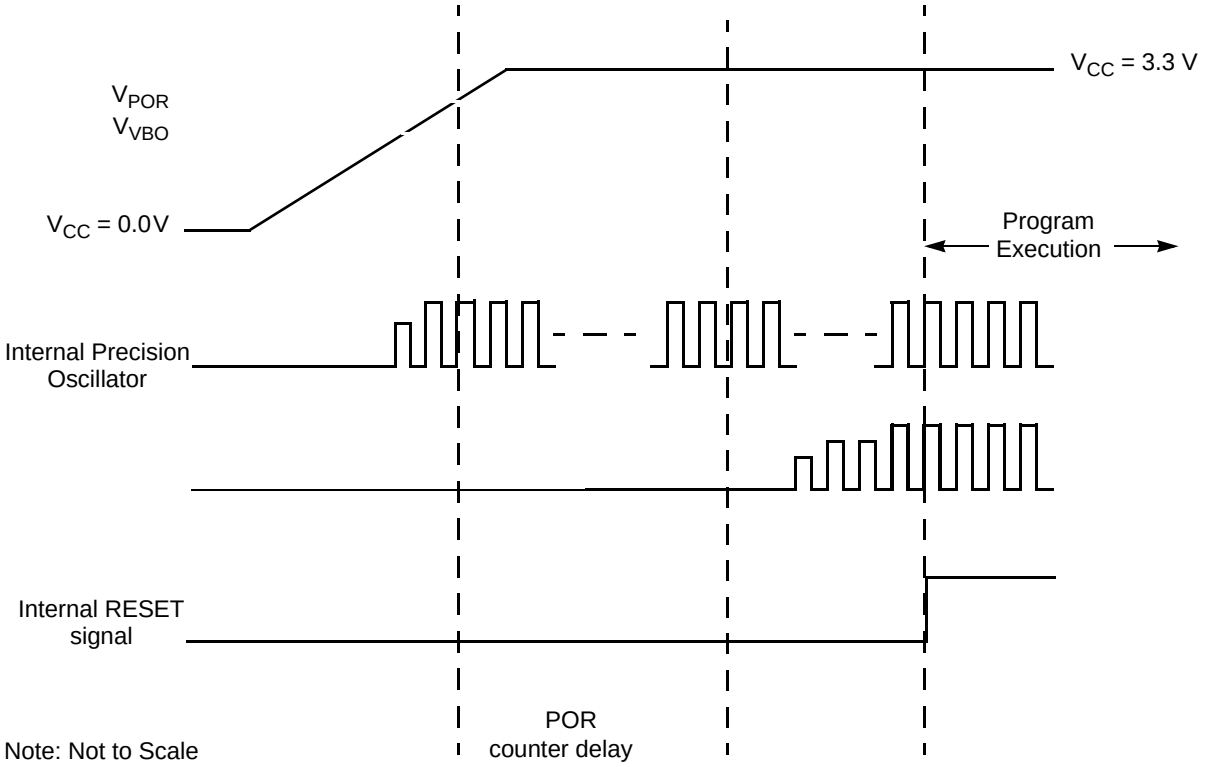



Figure 5. Power-On Reset Operation

## Voltage Brown-Out Reset

The devices in the Z8 Encore! XP F0823 Series provide low VBO protection. The VBO circuit senses when the supply voltage drops to an unsafe level (below the VBO threshold voltage) and forces the device into the Reset state. While the supply voltage remains below the POR voltage threshold ($V_{POR}$), the VBO block holds the device in the Reset.

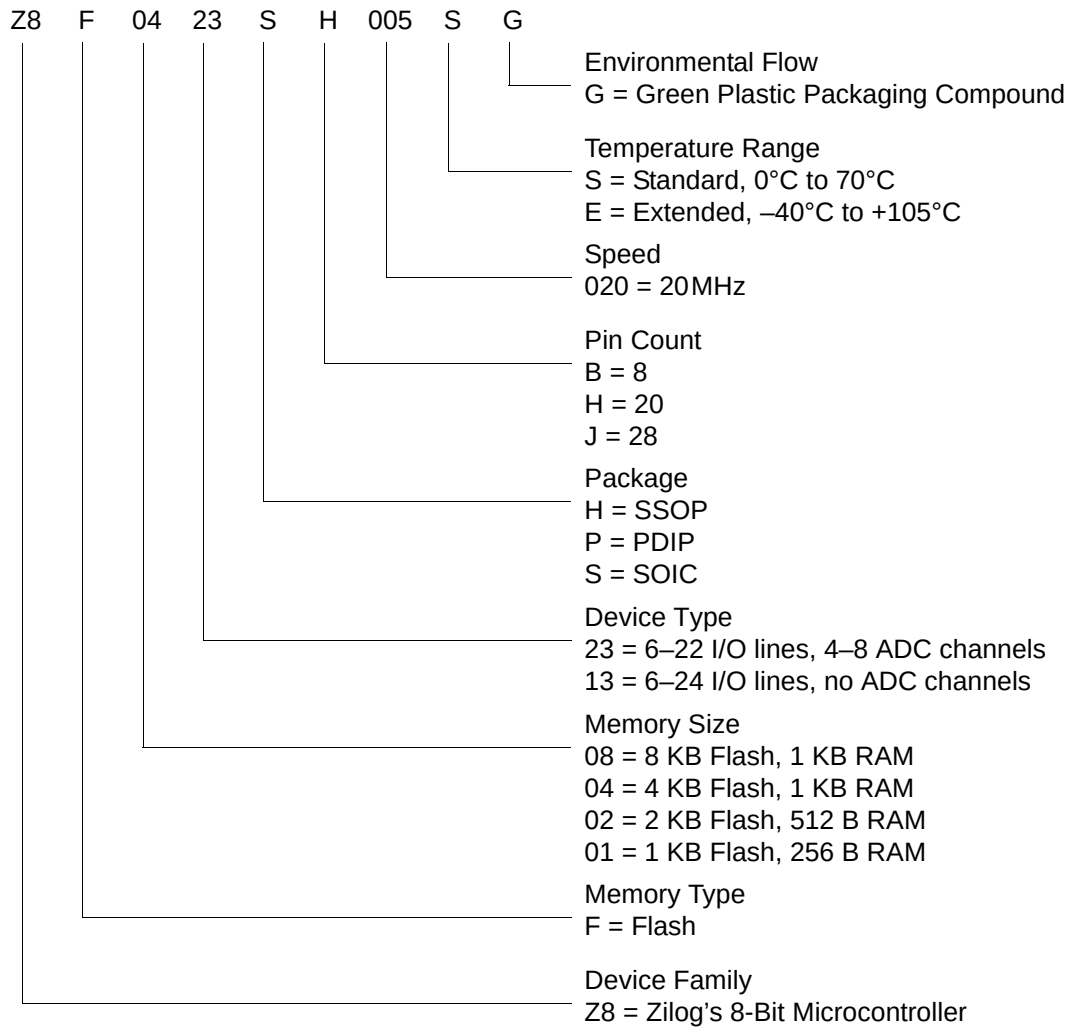
After the supply voltage again exceeds the Power-On Reset voltage threshold, the device progresses through a full System Reset sequence, as described in the Power-On Reset section on page 23. Following POR, the POR status bit in the Reset Status (RSTSTAT) Register is set to 1. Figure 6 displays Voltage Brown-Out operation. For the VBO and POR threshold voltages ($V_{VBO}$ and $V_{POR}$), see the Electrical Characteristics chapter on page 196.

The VBO circuit can be either enabled or disabled during STOP Mode. Operation during STOP Mode is set by the VBO_AO Flash Option bit. For information about configuring VBO_AO, see the Flash Option Bits chapter on page 146.

## Part Number Suffix Designations

Zilog part numbers consist of a number of components, as indicated in the following example.

Example. Part number Z8F0423SH005SG is an 8-bit 20 MHz Flash MCU with 4 KB of Program Memory and equipped with 6–22 I/O lines and 4–8 ADC channels in a 20-pin SOIC package, operating within a 0ºC to +70ºC temperature range and built using lead-free solder.



## P



## R