



XC864

New 4KB Flash 8-bit Microcontroller Series Extends XC800 8-bit MCU Family

XC864 series expands Infineon's 8-bit XC800 microcontroller (MCU) family to provide advanced peripheral integration for motor control performance in a small footprint package (TSSOP-20).

XC864 combines a high performance 8051 core with on-chip Flash memory and powerful on-chip peripherals. In addition, further performance and cost-saving enhancements to the XC800 family include features such as an on-chip oscillator and embedded voltage regulator (EVR), supporting single voltage supply of 3.3V or 5.0V.

Applications

- DC Fans, stepper motors
- HID lighting
- Small appliances, power tools
- Battery charging, intelligent sensors, SMPS
- Fail safe controller

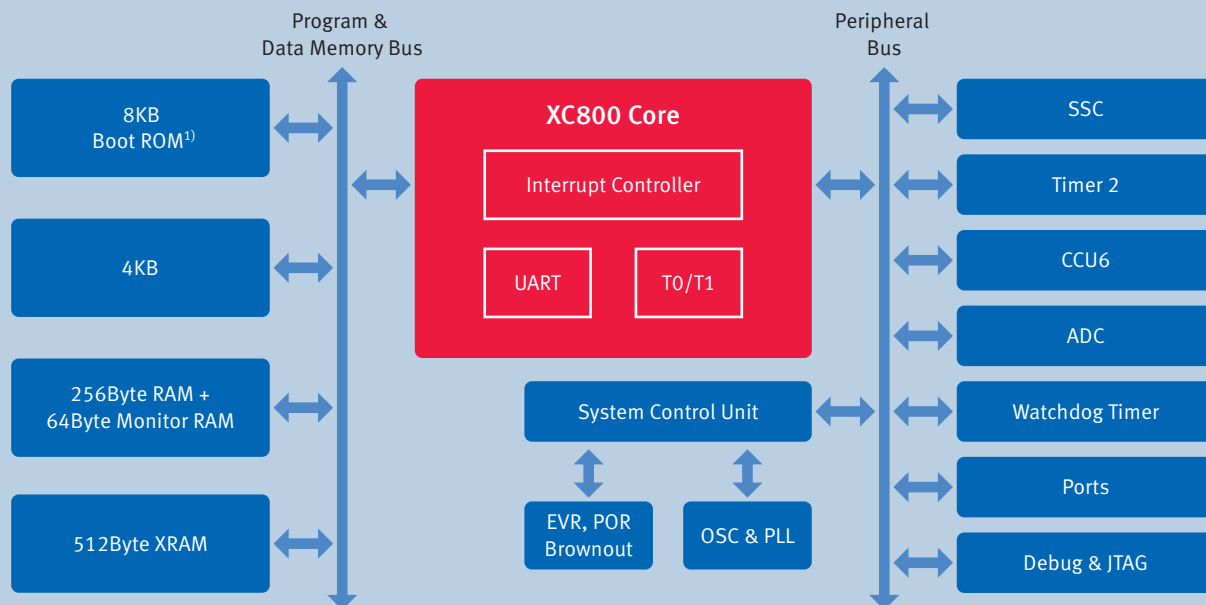
Key Features

- High performance XC800 core, compatible to the industry standard 8051 architecture
- 75ns machine cycle time @ 26.67MHz CPU clock
- 2 data pointers
- 4KB of Flash memory
Built-in Error Correction
- EEPROM emulation
- 256Byte RAM, 512Byte XRAM
- Capture/Compare Unit (CCU6) dedicated for flexible PWM signal generation for any kind of motor control
 - 3-phase PWM generation
 - 16-bit resolution
 - Support for dead-time generation
- 10-bit ADC with high accuracy (4-channels)
 - Fast conversion in 1.5µs
 - Auto-scan, injection and comparator modes to reduce CPU load
 - Hardware synchronisation to PWM units
- High-Speed SPI Compatible Synchronous Serial Interface (SSC)
- Integrated safety features
 - Brown-out detection
 - Power-on reset
 - Voltage and clock supervisory
 - Window watchdog timer
 - I/O protection circuitry
- On-chip clock generation unit with high accuracy
- 3 general purpose 16-bit timers
- 14 interrupt vectors with 4 priority levels
- Multiple power saving modes available
- On-chip debug support
- JTAG based non-intrusive debugging
- Flexible single voltage supply of 3.3V or 5.0V
- 13 General purpose I/O ports
- Package: TSSOP-20 (green)
 - Small body size : 6.5 x 4.4mm²
 - 0.65mm pitch
- Industrial specification
- Temperature range:
 - SAF (-40°C to 85°C)
 - SAK (-40°C to 125°C)

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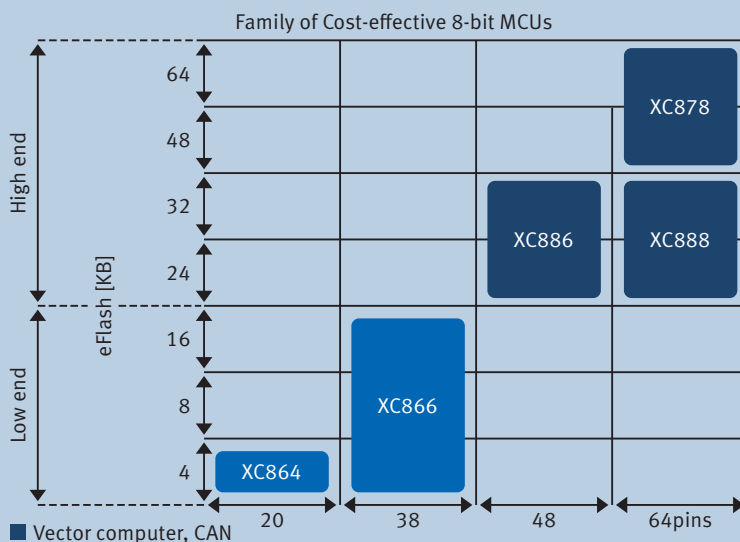
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Block Diagram



- 1) Includes 1KB of Monitor ROM
- 2) Includes up to 4KB for Data Flash

XC800 Family



Key Features

- High performance 8051 core
- 4KB up to 64KB Flash
- EEPROM support
- 20-pin up to 64-pin packages
- Flexible PWM unit
- Fast 10-bit ADC
- On-chip OSC
- LIN, CAN connectivity

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