



XC835/XC836

Smart 8-bit Microcontrollers for Industrial Applications

The XC83x-Series is the advanced entry level for Infineon's 8-bit microcontroller family XC800 running at 24MHz. A comprehensive set of peripherals with 4KB and 8KB Flash memory is now available in low pin count packages.

Communication interfaces and fast control loops with multichannel 10-bit ADCs and PWM signal generation are featured as well as safety and low power modes. The vector computer co-processor (MDU + CORDIC) boosts up standard 8-bit processing performance and supports field oriented motor control at 8-bit cost. This enables more efficient and intelligent designs for motor control (e.g. sensorless motors), lighting or power stage control.

With the I²C interface and the integrated capacitive touch control functionality the XC835 and XC836 expand the feature set of the XC800 family to fit more industrial and home appliance markets.

Applications

- Efficient Drives & Automation
 - Field oriented control of sensor less motor drives
 - Direct operation of stepper motors for displays
 - Automation networks for industrial production or building services
- Intuitive human machine interfaces
 - Multi gestural touch screens for industrial automation, medical devices or POS terminals
 - Integrated control elements with motor control, communication or power conversion functionality
- Intelligent Lighting
 - Dimming and color control of high brightness LEDs
 - Power, ignition or wear out control of HID
 - Lighting communication networks
- Smart Power Management
 - Efficient power conversion
 - Battery management
 - Induction cooking

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Key Features

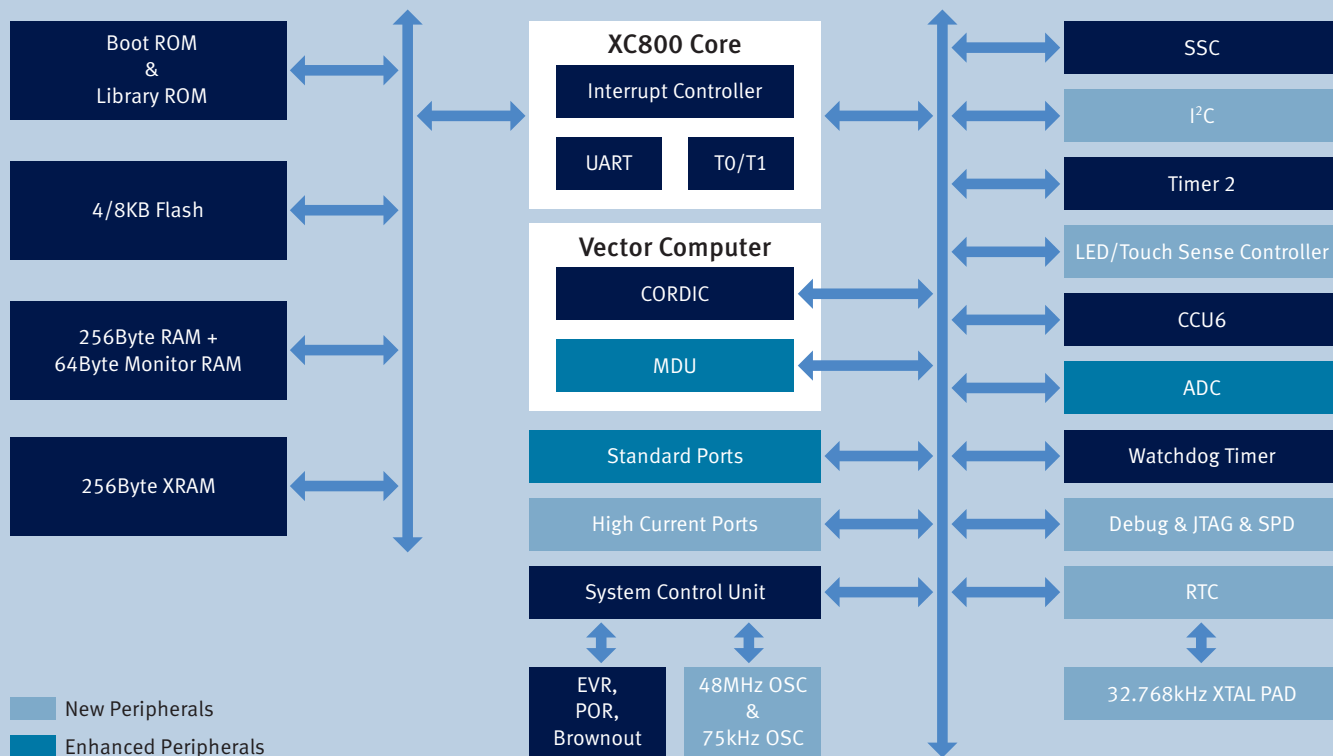
- Touch control with advanced ROM-library
- Vector computer co-processor for field oriented control of sensor less motors
- 10-bit ADC with high accuracy over 8 channels. Fast conversion in 1 μ s.
- Capture/Compare Unit (CCU6) dedicated for flexible PWM signal generation over 4 channels
- Direct HW-link between ADC and CCU6 for fast control loops
- Serial interfaces: UART, SPI, I²C
- Power down/wake up modes
- Real time clock
- High current pads to directly drive stepper motors or LED-displays
- Background E²PROM emulation

The XC83x-Series is fully supported by Infineon's free tool chain DAVE Bench for fast time to market.

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Block Diagram



Availability

Sales Code	Flash [KB]	Touch Control	VC ¹⁾	Temperature [°C]	Package
SAF-XC835MT-2FGI	8	yes	yes	-40 ... 85	PG-DSO-24
SAF-XC836T-2FRI	8	yes	no	-40 ... 85	PG-TSSOP-28
SAF-XC836M-1FRI	4	no	yes	-40 ... 85	PG-TSSOP-28
SAF-XC836M-2FRI	8	no	yes	-40 ... 85	PG-TSSOP-28
SAF-XC836MT-2FRI	8	yes	yes	-40 ... 85	PG-TSSOP-28
SAF-XC836-2FRI	8	no	no	-40 ... 85	PG-TSSOP-28

1) VC = Vector Computer (MDU + CORDIC)

How to reach us:
<http://www.infineon.com>

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