

XC866

High Performance 8-Bit Microcontroller
with On-Chip Flash Memory and
Powerful Peripheral Set



THE XC866 is the first product of a new and advanced 8-bit μ C family (XC800 family), combining 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.

THE FLEXIBILITY offered by the XC866 embedded Flash products in 4K, 8K and 16Kbytes, is also expanded to include a family of compatible ROM versions for further cost saving potential in high volume production. Both embedded Flash as well as ROM based products include data Flash for flexible storage and in-system-update of specific data.

ADDITIONAL KEY FEATURES of the XC866 family of products include support for LIN (Local Interconnected Network), an enhanced CAPCOM6E unit for flexible PWM generation and a new 10-bit ADC with extended functionality (e.g. comparator mode).

THE XC866 with its rich peripheral set offers an optimized fit to a wide range of different applications such as industrial motor control, automotive body and consumer drive.

Key Feature

- High performance XC800 core, compatible to the industry standard 8051 architecture
- 75ns machine cycle time @ 26.67 MHz CPU clock
- 2 data pointers
- 4/8/16 KByte of Flash memory
 - Built-in Error Correction to target automotive zero defect qualify standard
 - Up to 4 KByte of the Flash ideal for Data Flash and EEPROM emulation
- 256 Byte RAM, 512 Byte XRAM

- UART (with LIN support capability)
- High-Speed SPI Compatible Synchronous Serial Interface (SSC)
- Brown-out detection for core logic supply
- On-chip OSC (10MHz) and PLL for clock generation
- High performance capture compare unit for PWM signal generation (CCU6E) with special modes for motor control
- 10 bit ADC with high accuracy (8 channels)
 - Fast conversion time of less than 1.5 μ s
 - TUE less than +/- 2LSB
- Three 16 bit timers
- Interrupts:
 - 14 interrupt vectors with 4 priority levels
 - Non-maskable interrupt (NMI)
- On-chip debug support (JTAG)
- Port- and core-voltage watchdog circuit with RESET generation
- Power saving modes
 - Slow-down mode
 - Idle mode
 - Power-down mode with wake-up capability via RxD (LIN) or EXINT0
 - Clock gating control to each peripheral
- Programmable 16-bit Watchdog Timer (WDT)
- 27 general purpose I/O Ports
- Flexible single voltage supply of 3.3V or 5.0V; core logic supply at 2.5V (generated by embedded voltage regulator)
- Package: TSSOP-38 (green)
- Temperature range
 - SAF (-40°C to 85°C)
 - SAK (-40°C to 125°C)

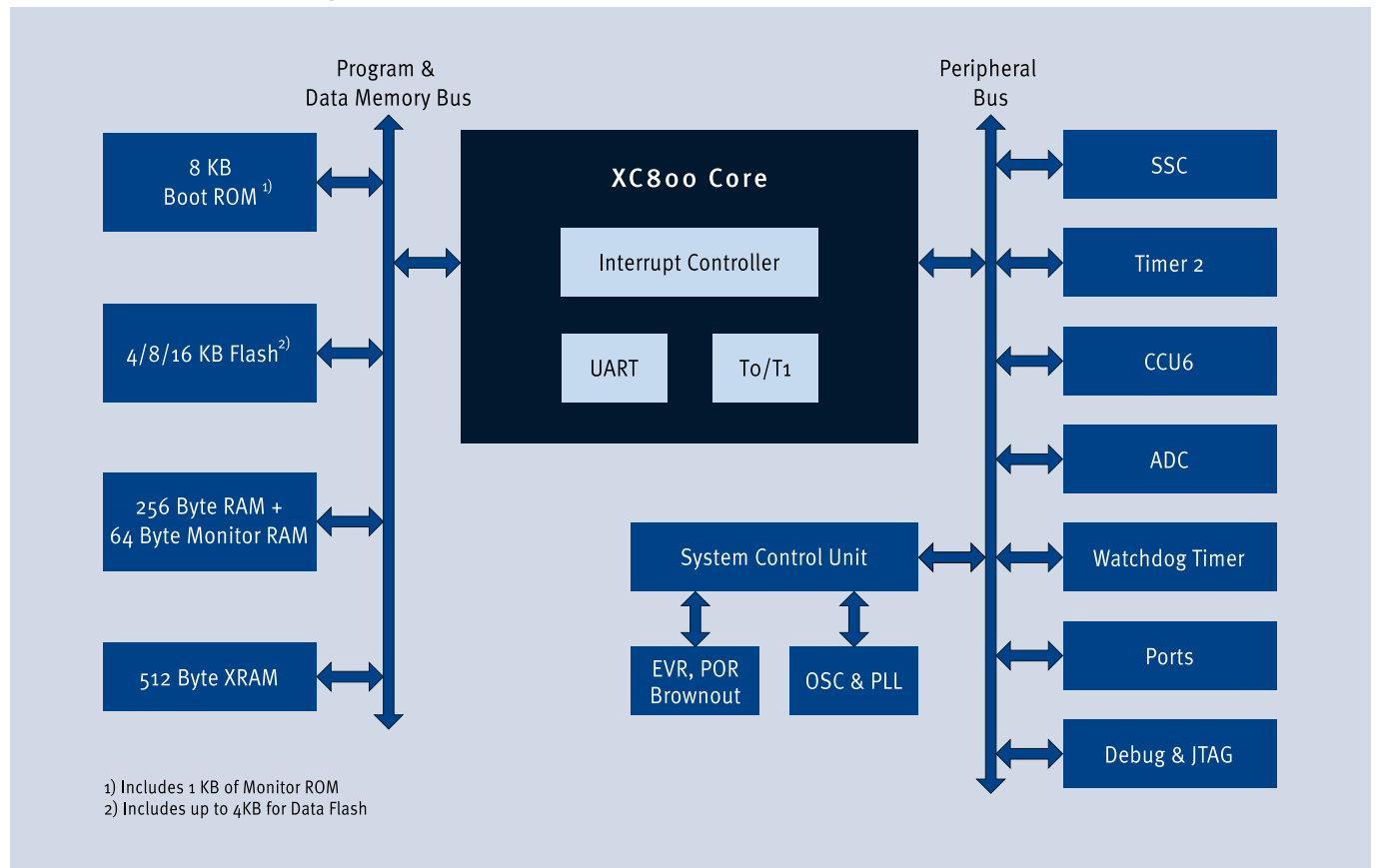
www.infineon.com/microcontrollers

Microcontrollers



Never stop thinking

XC866 Block Diagram



Derivatives

	Type	eFlash [KBytes]	RAM [Bytes]	LIN BSL Support	Temperature Range	Package
NEW	SAF-XC866-1FR	4	768	-	-40°C to +85°C	PG-TSSOP-38
NEW	SAK-XC866-1FR	4	768	-	-40°C to +125°C	PG-TSSOP-38
NEW	SAF-XC866L-1FR	4	768	✓	-40°C to +85°C	PG-TSSOP-38
NEW	SAK-XC866L-1FR	4	768	✓	-40°C to +125°C	PG-TSSOP-38
	SAF-XC866-2FR	8	768	-	-40°C to +85°C	PG-TSSOP-38
	SAK-XC866-2FR	8	768	-	-40°C to +125°C	PG-TSSOP-38
	SAF-XC866L-2FR	8	768	✓	-40°C to +85°C	PG-TSSOP-38
	SAK-XC866L-2FR	8	768	✓	-40°C to +125°C	PG-TSSOP-38
	SAF-XC866-4FR	16	768	-	-40°C to +85°C	PG-TSSOP-38
	SAK-XC866-4FR	16	768	-	-40°C to +125°C	PG-TSSOP-38
	SAF-XC866L-4FR	16	768	✓	-40°C to +85°C	PG-TSSOP-38
	SAK-XC866L-4FR	16	768	✓	-40°C to +125°C	PG-TSSOP-38

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

Published by
Infineon Technologies AG
 Am Campeon 1-12
 81726 Munich

© Infineon Technologies AG 2006.
 All Rights Reserved.

Template: pb_w_tmplt.fm/2

Attention please!

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics. Terms of delivery and rights to technical change reserved. We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office.

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Ordering No. B158-H8554-G2-X-7600
 Printed in Germany
 PS 06053. nb