



## XC2300C - Series

### 16/32-bit $\mu$ C for High-End Automotive Safety

The XC2300C series is the high-end extension of the XC2300 microcontroller family focussing on Safety applications. With the extended memory size of up to 1.6MB Flash, running at up to 100MHz and optional offering of embedded FlexRay, the microcontrollers of this series are well suited for high-end safety applications like high-end Airbag or Electric Power-Steering (EPS). This memory size extension of the XC2300 family as well as new low-end and high performance products launching in 2010 will complete the rich portfolio of scalable products targeting all kind of automotive Safety applications.

#### Targeted Automotive Safety Applications

- High-end Airbags
- Electric Power-Steering
- Braking

#### Highlights:

- High performance 16-/32-bit C166SV2 CPU with 5-stage pipeline
- Single clock cycle instruction execution with 10ns instruction time
- Up to 100 MIPS peak performance @ 100MHz CPU clock
- Up to 1.6MB Flash with EEPROM emulation
- Embedded FlexRay
- Single voltage supply (core supply over embedded voltage regulator)
- 144pin package

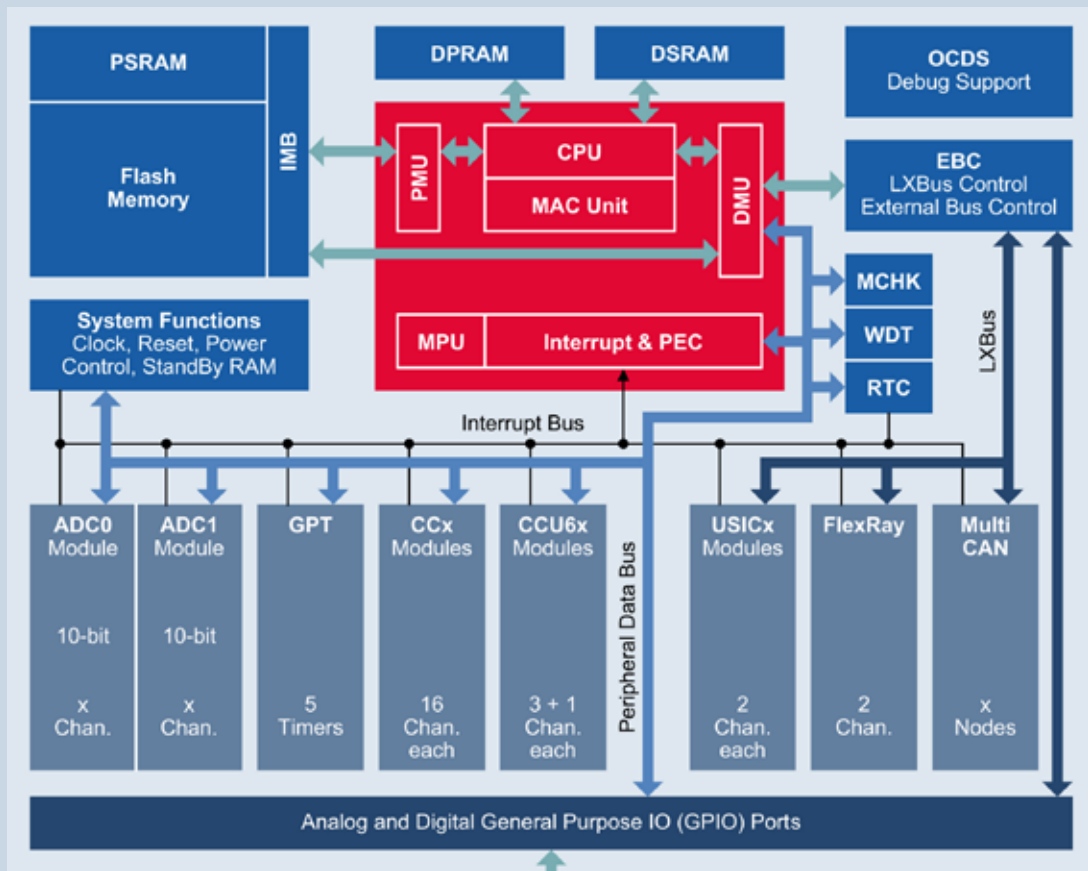
[www.infineon.com/XC2000](http://www.infineon.com/XC2000)

#### Features

- High-performance CPU with five-stage pipeline and MPU
- 16 priority levels providing 112 interrupt nodes
- 8-channel interrupt-driven data transfer facilities via peripheral event controller (PEC)
- Hardware CRC-Checker with programmable polynomial to supervise on-chip memory areas
- Up to 1.6MB Flash (incl. up to 64kB data Flash for EEPROM emulation), up to 138kB SRAM
- Memory content protection through Error Correction Code (ECC)
- Up to 24-channel dual A/D converter, optional data preprocessing (data reduction, range check), open wire detection, conversion time  $\sim 0.675\mu\text{s}$
- One 16-channel general purpose capture/compare units (CCU2)
- Four capture/compare units (CCU6) for flexible PWM signal generation for any kind of motor control
- Multi-functional general purpose timer unit with 5 timers
- Up to 8 serial interface channels to be used as UART, LIN, SPI, I2C, I2S
- On-chip MultiCAN interface (Rev. 2.0B active) with 64 message objects, up to 3 CAN nodes
- Optional FlexRay™ module (E-Ray) according to protocol specification V2.1, with 2 nodes
- On-chip system timer and on-chip real time clock
- Programmable watchdog timer and oscillator watchdog
- Up to 118 general purpose I/O lines with flexible pin assignment
- On-chip bootstrap loader
- On-chip debug support via Device Access Port (DAP) or JTAG interface
- Single voltage supply of 3.3 to 5V
- 144-pin green LQFP package, 0.5mm (19.7mil) pitch
- Temperature range: -40 to +125°C

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Type	Frequency [MHz]	eFlash [KByte]	RAM [KByte]	USIC* Channels	CAN Nodes	CCU** Modules	ADC Channels	FlexRay Channels	Package
SAK-XC2387C-136F100L	100	1088	106	6	3	5	24	-	LQFP-144
SAK-XC2388C-104F100L	100	832	82	8	3	5	24	2	LQFP-144
SAK-XC2388C-136F100L	100	1088	106	8	3	5	24	2	LQFP-144
SAK-XC2388C-200F100L	100	1600	138	8	3	5	24	2	LQFP-144

\*Configurable Module: LIN, UART, SSC/SPI, I<sup>2</sup>C, I<sup>2</sup>S

\*\*Capture Compare Units: CCU6/CCU2

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