



**PRELIMINARY**

## XC2300E - Series

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

The XC2300E series is the high-performance extension of the XC2300 microcontroller family focussing on Safety applications. The integrated instruction cache (iCache) offers a strong performance boost of up to 30%. In addition the frequency increase of up to 128MHz brings further performance improvements.

The new devices of this series, equipped with up to 1MB embedded Flash and optional FlexRay are geared towards automotive Safety applications, like high-end Airbag, Electric Power-Steering (EPS) or Braking, requiring a higher range of performance or the potential for future performance improvements

#### Targeted Automotive Safety Applications

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

#### Highlights:

- High performance 16-/32-bit CPU with 5-stage pipeline
- Up to 30% performance boost through instruction cache only
- CPU clock running at up to @ 128MHz
- Up to 1.0MB Flash with EEPROM emulation
- Embedded FlexRay
- Single voltage supply (core supply over embedded voltage regulator)
- 100pin and 144pin package

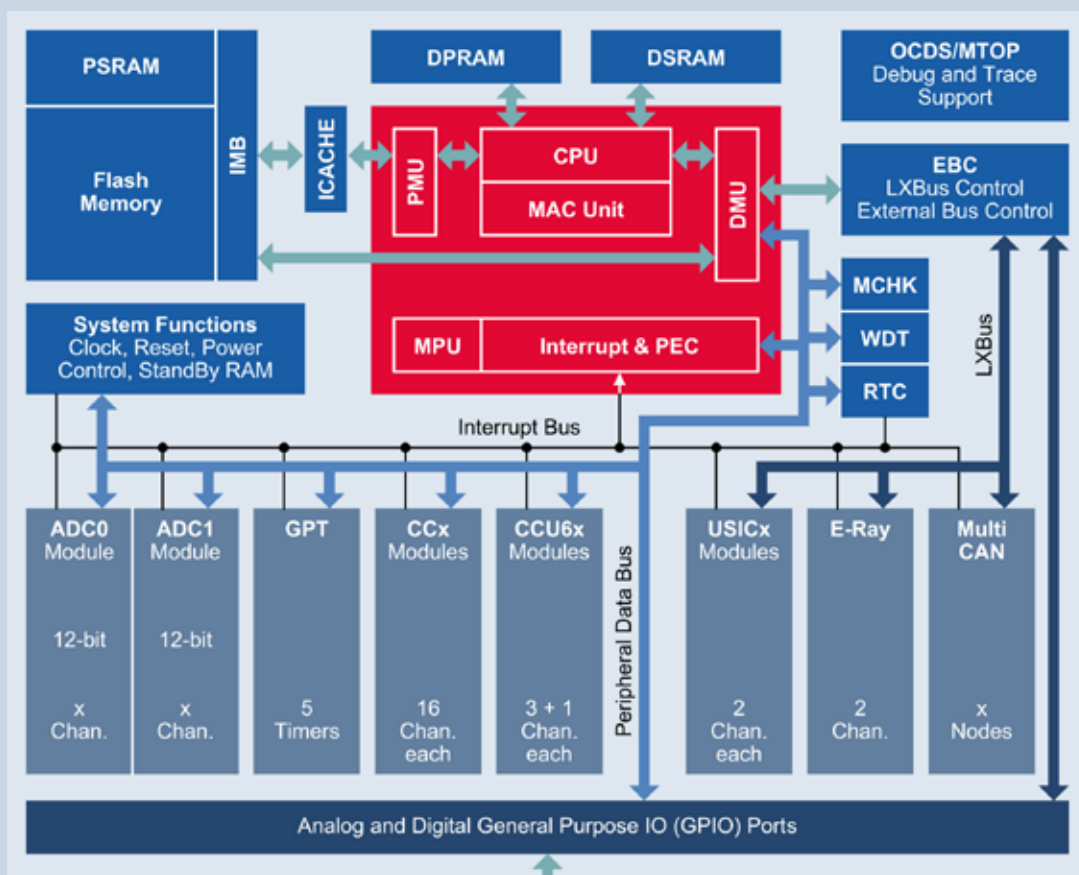
[www.infineon.com/XC2000](http://www.infineon.com/XC2000)

#### Features:

- High-performance CPU with five-stage pipeline and MPU
- 16-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 1088kB Flash (incl. up to 64kB data Flash for EEPROM emulation), up to 90kB SRAM
- Memory content protection through Error Correction Code (ECC)
- 16kB of instruction cache (iCache)
- Up to 24-channel dual 12-bit A/D converter, optional data preprocessing (data reduction, range check), open wire detection, conversion time  $\sim 0.675\mu$ s
- One 16-channel general purpose capture/compare units (CCU2)
- Up to 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 6 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 debug support via Device Access Port (DAP) or JTAG interface
- Single voltage supply of 3.3 to 5V
- 100-pin and 144-pin green LQFP package, 0.5mm 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-XC2361E-72F100L	100	576	66	6	2	3	16	-	LQFP-100
SAK-XC2361E-104F100L	100	832	90	6	2	3	16	-	LQFP-100
SAK-XC2361E-136F128L	128	1088	90	6	2	3	16	-	LQFP-100
SAK-XC2365E-136F100L	100	1088	90	6	3	5	16	-	LQFP-100
SAK-XC2365E-136F128L	128	1088	90	6	3	5	16	-	LQFP-100
SAK-XC2368E-72F128L	128	576	66	4	3	5	16	2	LQFP-100
SAK-XC2368E-104F128L	128	832	90	4	3	5	16	2	LQFP-100
SAK-XC2368E-136F128L	128	1088	90	4	3	5	16	2	LQFP-100
SAK-XC2388E-104F128L	128	832	90	4	3	5	24	2	LQFP-144
SAK-XC2388E-136F128L	128	1088	90	4	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

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

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