



XC2300D - Series

16/32-bit μ C for Low-End Automotive Safety

The XC2300D series, with the XC233xD (LQFP-64) and XC232xD (VQFN-48) derivatives, further enlarges the XC2300 microcontroller family in the low-end. With a maximum memory size of 160kB Flash and up to 12kB RAM, the microcontrollers of this series are well suited for low-end cost-sensitive safety applications like low-end Airbag or Belt Pretensioner applications.

Targeted Automotive Safety Applications

Low-end Airbag
Belt-Pretensioner

Highlights:

High performance 16-/32-bit C166SV2 CPU with 5-stage pipeline
Single clock cycle instruction execution with 10ns instruction time
Up to 60 MIPS peak performance @ 66MHz CPU clock
Up to 160kB Flash with EEPROM emulation
Single voltage supply (core supply over embedded voltage regulator)

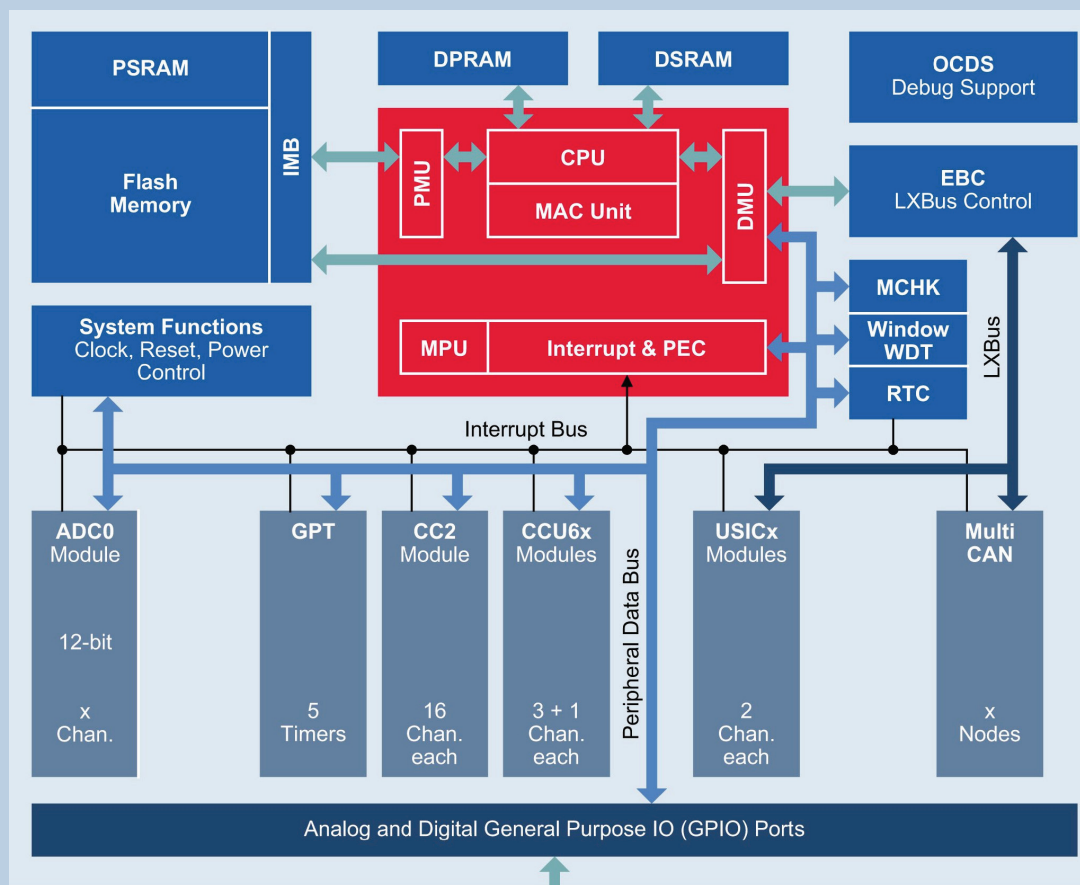
- 48pin and 64pin packages

Features:

- High-performance CPU with five-stage pipeline and MPU
- 16 priority levels providing 96 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 160kB Flash (incl. up to 32kB data Flash for EEPROM emulation), up to 12kB SRAM
- Memory content protection through Error Correction Code (ECC)
- Up to 9-channel dual 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 2 capture/compare units (CCU6) for flexible PWM signal generation for any kind of motor control
- Multi-functional general purpose timer unit with 5 timers
- 4 serial interface channels to be used as UART, LIN, SPI, I2C, I2S
- On-chip CAN interface (Rev. 2.0B active), 1 node with 32 message objects
- On-chip system timer and on-chip real time clock
- Programmable watchdog timer and oscillator watchdog
- Window WDT with clock source separate from fsys
- Up to 40 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
- 48-pin green VQFN, 64-pin green LQFP package
- Temperature range: -40 to +125°C
- Supported by a large range of development tools

XC2300D - Series

16/32-bit μ C for Low-End Automotive Safety



Type	Frequency [MHz]	eFlash [KByte]	RAM [KByte]	USI* Channels	CAN Nodes	CCU** Modules	ADC Channels	FlexRay Channels	Package
SAK-XC2320D-12F66L	66	96	8	4	-	3	9	-	VQFN-48
SAK-XC2320D-20F66L	66	160	12	4	-	3	9	-	VQFN-48
SAK-XC2321D-12F66L	66	96	8	4	1	3	9	-	VQFN-48
SAK-XC2321D-20F66L	66	160	12	4	1	3	9	-	VQFN-48
SAK-XC2330D-12F66L	66	96	8	4	-	3	9	-	LQFP-64
SAK-XC2330D-20F66L	66	160	12	4	-	3	9	-	LQFP-64
SAK-XC2331D-12F66L	66	96	8	4	1	3	9	-	LQFP-64
SAK-XC2331D-20F66L	66	160	12	4	1	3	9	-	LQFP-64

*Configurable Module: LIN, UART, SSC/SPI, I²C, I²S

**Capture Compare Units: CCU6/CCU2

Published by
Infineon Technologies AG
85579 Neubiberg, Germany

© 2011 Infineon Technologies AG.
All Rights Reserved.

Visit us:
www.infineon.com

Order Number: B158-H9519-X-X-7600
Date: 09 / 2010

ATTENTION PLEASE!

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

INFORMATION

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).

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.