

XC2300 and CIC61508

Cost-Optimized Safety Computing Platform

The implementation of ISO26262 / IEC61508 Std. compliant Safety Critical Systems requires an independent robust safety watchdog for main microcontroller supervision.

Thus microcontroller based safety systems, must be made of 3 components

- Main Microcontroller
- Independent watchdog with robust monitoring channels
- Supporting safety Software

With its SAFETY COMPUTING PLATFORM Infineon covers all of these 3 needed components. The XC2300 MCU family. The CIC61508 an independent robust watchdog. Plus the SafeTcore safety library.

All 3 components were specified and developed for efficient implementation and fast time to market.

Typical target applications of Infineon's safety computing platform are IEC61508/SIL3 and ISO26262/ASILC-ASILD applications.

Key Supporting SIL Features

- Robust monitoring channel with up to 3 selectable safety control paths
 - Internal test scheduler/sequencer
 - Supply monitor
 - System shut down
- Monitoring of processor functionality to ensure correct computation of user's process monitoring software
 - Self tests software covering CPU, memories and peripherals
 - Integration path for user defined application tests
 - Redundant switch-o path
- Independent safety monitor software
 - Task monitor (scheduling, timing protection)
 - Data Verifikation Unit

Customer Benefits

- Fast time to market due to Infineons proven in use safety concept
- Comprehensive safety documentation
- Intelligent error management avoids false alarm and therefore reduced FIT/DPPM rate
- Scalable platform guarantees optimized cost-performance ratio
- Supports ASIL-requirements

Infineon Safety Computing Platform Components

XC2300 Family- 16/32-bit MCU

- High performance CPU core with memory protection unit
- ECC on any memory, Flash and RAMs
- Flexible CRC engine
- Wide range of memory sizes, performance and packages

CIC61508

- Intelligent Error Management
- Robust monitoring channel paths
- Task Monitoring
- Wide temperature range (-40 to 140°C)
- TSSOP-38 package

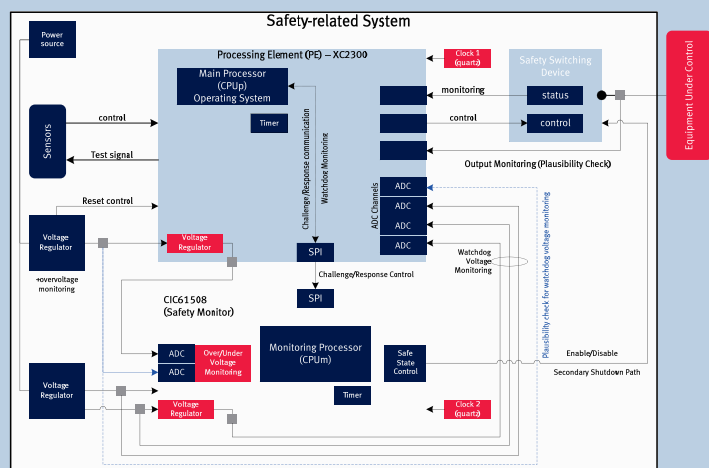
SafeTcore library

- Processor monitoring and self tests
- Independent safety monitor software
- Compatible with Tasking V5r2p3
- supports ISO 26262 /IEC 61508
- Small memory footprint (typ. 92KB ROM and 4.6KB RAM)

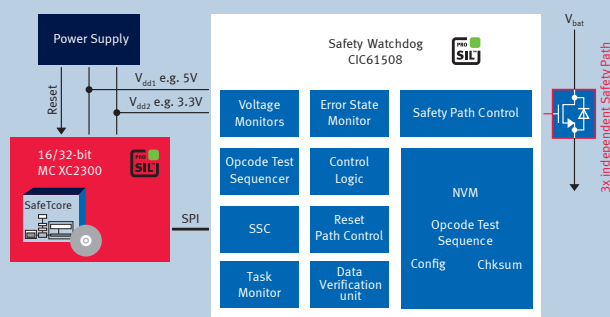
XC2300 and CIC61508

Powerful Safety Computing Platform

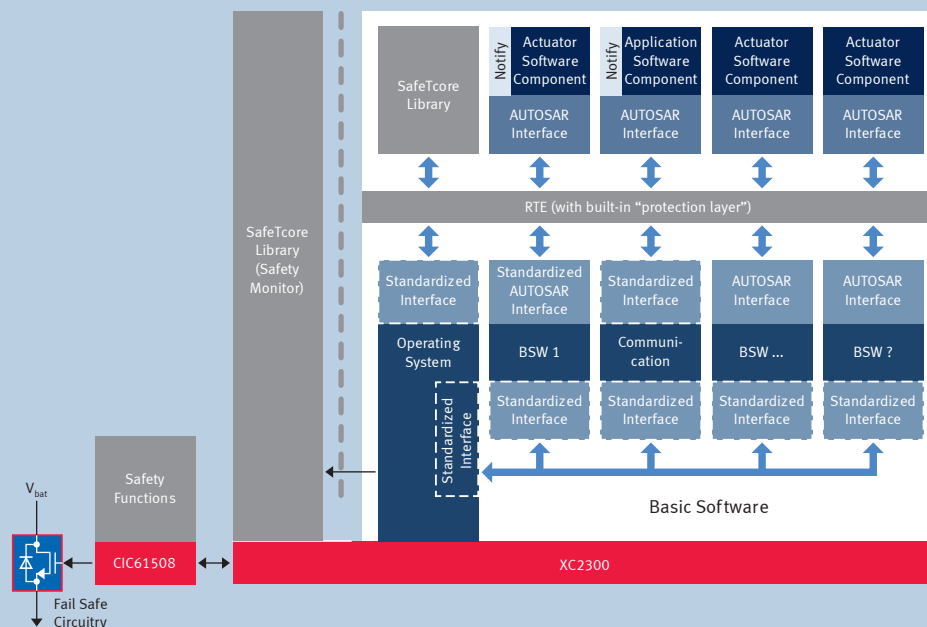
Safety Related Systems (SRS) Block Diagram



CIC61508 Block Diagram



Safety Software Implementation Block Diagram



Published by
Infineon Technologies AG
85579 Neubiberg, Germany

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Order Number: B158-H9679-X-X-7600
Date: 01 / 2012

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