



XC858

Optimized for CAN Application Series

High Performance 8-bit Microcontroller with On-Chip Flash Memory and MultiCAN

CONTROLLER AREA NETWORK (CAN) is a robust serial bus designed for board to board communication in noisy environments such as automobile and industrial control systems.

MultiCAN developed by Infineon improves upon previous CAN implementations, by adding features such as additional CAN nodes, more message objects, linked list management of message objects, and support for TTCAN level 2.

The XC858 CA is a new member of XC800 family which dedicates for CAN application by integrating a MultiCAN controller which support CAN (V2.0B). The on chip CAN module reduces the CPU load by performing most of the functions required by the networking protocol (masking, filtering and buffering of CAN frames).

Additional key features include up to 64KByte of embedded Flash memory, an intelligent PWM unit, a highly accurate 10-bit ADC with fast conversion speed.

Applications

- Automotive Body
- Building Control for lifts/escalators
- Intelligent Traffic system
- Configuration Bus in Distribute Power System
- Industrial Automation
- Intelligent Lighting Control
- Printing
- Medical
- Replacement of RS232 and RS485

Key Features

- High performance 8051 core running at 24MHz
- 36/52/64KByte of Flash memory
 - Built-in Error Correction
 - Protection against invalid code execution
 - 4KByte Data Flash ideal for EEPROM usage
- 256Byte RAM, 3072Byte XRAM
- 2 UART and 1 high speed SPI compatible synchronous serial interface SSC
- T2CCU for PWM generation
 - 16-bit resolution and up to 48MHz frequency
- 4 general purpose programmable 16bit timers
- Programmable 16-bit watchdog timer (WDT)
- 8-bit/10-bit ADC with high accuracy (8 channels)
 - Fast conversion time (8bit @ 1.5µS, 10bit @ 1.7µS)
 - Typ TUE: <2LSB @ 10bit

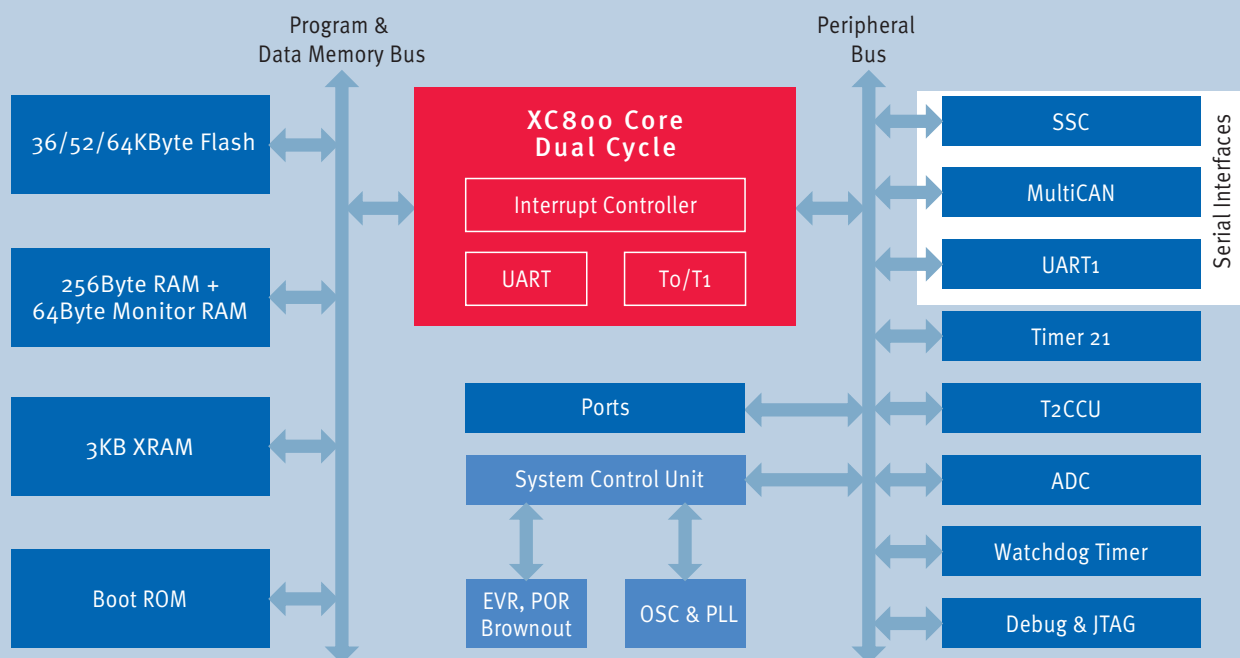
Key Features (cont'd)

- Auto scan, injection and comparator modes to reduce CPU load
- MultiCAN with 2 nodes
 - 32 message objects shared between both nodes
 - Data transfer rates up to 1Mbit/s
 - Advanced interrupt handling, up to 8 interrupt nodes
 - Automatic FIFO and gateway mode support
 - Powerful message transfer control and error handling capabilities
 - Advanced acceptance filtering
 - Advanced CAN bus bit timing analysis and baud rate detection via a frame counter
 - Advanced data management
- Interrupts
 - 14 interrupt vectors with 4 priority levels
 - Non-maskable interrupt (NMI)
- On-chip OSC (4MHz) and PLL for clock generation
- 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 fast wake-up capability via RxD or EXINT0
 - Clock gating control to each peripheral
- Flexible single voltage supply of 3.3V or 5.0V
- 40 general purpose I/O ports
- Packages: PG-TQFP-64 (green)
- Temperature range:
 - SAF (-40°C to 85°C)

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Block Diagram



Product Summary

Type	Eflash [KByte]	RAM [Byte]	MultiCAN	ADC Channels	SSC	UART	Package
SAF-858CA-9FFI	36	3328	2	8	1	2	PG-TQFP-64
SAF-858CA-13FFI	52	3328	2	8	1	2	PG-TQFP-64
SAF-858CA-16FFI	64	3328	2	8	1	2	PG-TQFP-64

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