# SIEMENS

# C515C
# Multipurpose
# Microcontroller with On-chip
# Full-CAN Module

**The C515C is a new derivative of the C500 family of 8-Bit-microcontrollers with new peripherals. It combines the well known func-tionality of the standard 80C515A microcontroller with enhanced features.**
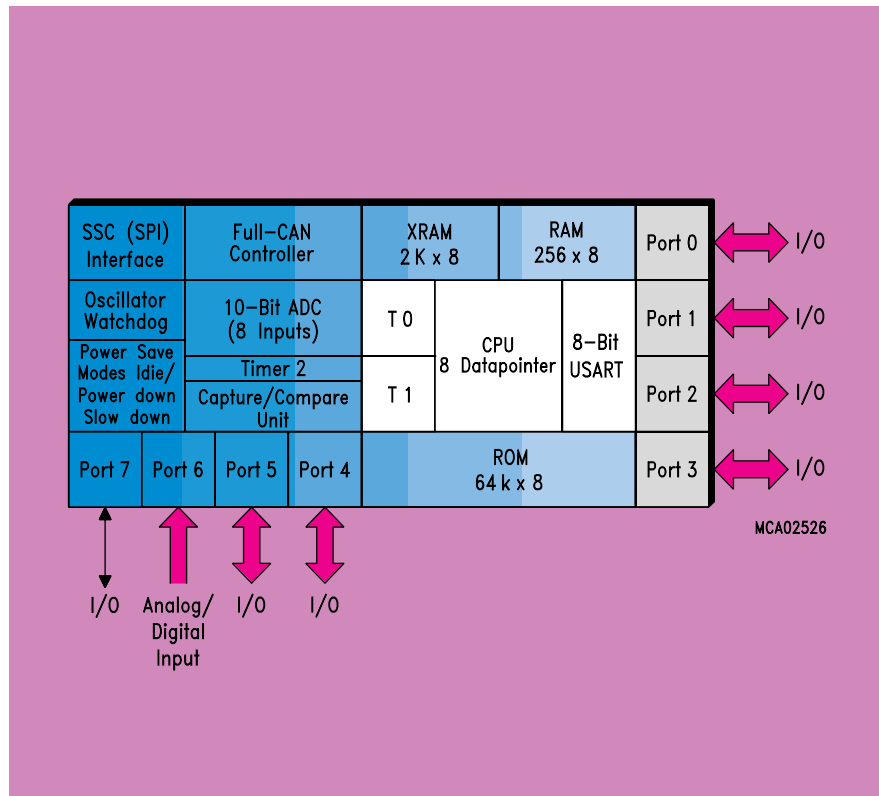
**The C515C features a SPI compatible interface and a CAN module which meets version 2.0 B of the Controller Area Network specifi-**

cation.

**The high peripheral performance and the CAN feature is ideal for automotive and industrial control applications. Due to EMC/RFI enhancements and power consumption reduction this design excels especially for car radio applications.**

Microcontrollers

- Enhanced 8-Bit C500-CPU – Fully Software/Toolset Compatible to Standard 80C51/80C52 Microcontrollers
- Fully Upward Compatible with SAB 80C515 and SAB 80C515A
- 600 ns Instruction Cycle Time at 10 MHz CPU Clock without clock prescaler
- 15 Interrupt Vectors with 4 Priority Levels selectable
- 64 KByte On-Chip ROM. ROM-Protection available
- 256 Byte On-Chip Internal RAM (IRAM)
- 2 KByte On-Chip Extended RAM (XRAM)
- 8 Datapointers with 16 Bit for Indirect Addressing of Program and Data Memory
- Supports external Address Range up to 64 KByte Program and Data Memory

- Synchronous Serial Interface (SSC) with full SPI Compatibility for Peripherals and E$^2$PROMs
- Full CAN Module Version 2.0 B active with 15 Message Objects and Basic-CAN Feature
- Three 16-Bit Timer/Counters
- 4 Channel Capture/Compare Unit for PWM Generation
- 8-Channel 10-bit A/D Converter. A/D Converter Inputs can be used as Digital Inputs
- Full Duplex Serial Interface with Asynchronous and Synchronous Modes and Programmable Baudrate Generator
- 49 Multifunctional Input/Output Pins
- Extended Power Saving Modes with Wake-Up from Power-Down via External Interrupt and Extended Slow-Down Features

- Enhanced EMV/RFI Improvements with ALE switch off, six pairs of VCC/VSS pins and latest design optimizations
- Enhanced Fail Safe Mechanisms with Programmable Watchdog Timer and Oscillator Watchdog
- Fast Power-On Reset
- 80-Pin P-MQFP Package – Pin-Compatible to SAB 80C515A-M and SAB 80C515-M
- Temperature ranges:
  Standard       0 °C to + 70 °C
  Extended    -40 °C to + 85 °C
                       -40 °C to + 110 °C

# C515C
# Block Diagram



MCA02526

# C515C
# Pin Configuration



C515C-8R

P-MQFP-80
Package

MCB02527

Global PartnerChip
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