

C505C/C505

Microcontroller with/without Complete CAN Capability

The C505C enhances the C500 family of 8-bit Microcontrollers by a new member which provides full CAN version 2.0 B integrated on-chip.

The C505C meets the current requirements for increasingly small controllers with high performance, optimized EMC behavior and fast communication between decentralized sensors, actuators and the host.

The device provides 16 Kbyte of ROM, 512 Bytes of RAM, CAN

version 2.0 B, an asynchronous/synchronous serial interface and a highly accurate 8-bit ADC with a 6.6 μ s conversion time integrated on the chip.

A 300 ns instruction execution time at 20 MHz together with eight 16-bit data pointers ensures maximum performance even during external data fetches.

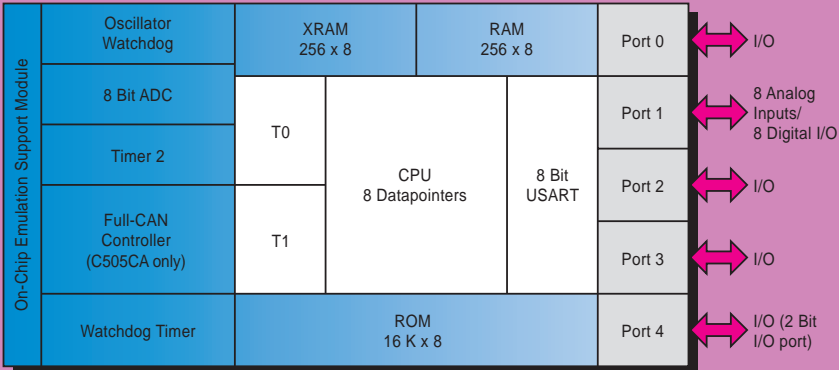
Typical applications for the C505C are networked industrial control and car body such as intelligent sensors.

- Enhanced 8-Bit C500-CPU – Fully Software/Toolset Compatible to Standard 80C51/80C52 Microcontrollers
- 300 ns Instruction Cycle Time at 20 MHz CPU Clock without clock prescaler
- 12 Interrupt Vectors with 4 Priority Levels selectable
- 16 KByte On-Chip ROM. ROM-Protection available
- 256 Byte On-Chip Internal RAM (IRAM)
- 256 Byte On-Chip Extended RAM (XRAM)
- Eight 16 Bit Datapointers for Indirect Addressing of Program and Data Memory
- Supports external Address Range up to 64 KByte Program and Data Memory
- Full CAN Module Version 2.0 B active with 15 Message Objects and Basic-CAN Feature (C505C only)
- Three 16-Bit Timer/Counters
- 4 Channel Capture/Compare Unit for PWM Generation
- 8-Channel 8-bit A/D Converter. A/D Converter Inputs can be used as Digital Inputs/Outputs
- Full Duplex Serial Interface with Asynchronous and Synchronous Modes and Programmable Baudrate Generator
- 34 Multifunctional Input/Output Pins
- Extended Power Saving Modes with Wake-Up from Power-Down via External Interrupt
- Enhanced EMV/RFI Improvements with ALE switch off and latest design optimizations
- Enhanced Fail Safe Mechanisms with Programmable Watchdog Timer and Oscillator Watchdog
- Fast Power-On Reset
- 44-Pin P-MQFP Package
- Pincompatible to C501, C502 and C504
- Temperature ranges:

Standard	0 °C to + 70 °C
Extended	-40 °C to + 85 °C
	-40 °C to + 125 °C

C505C/C505

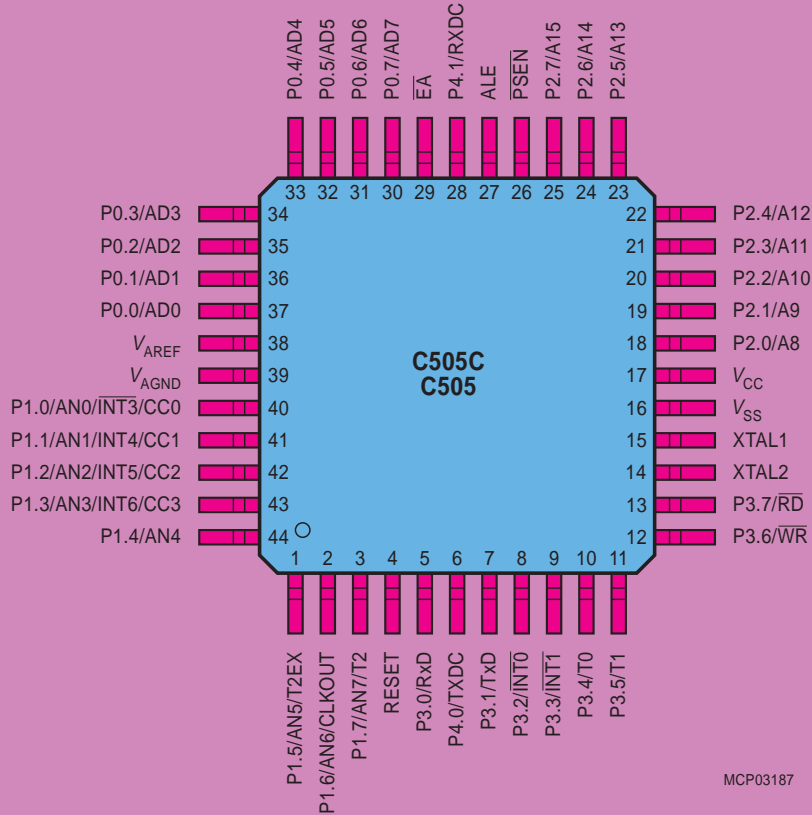
Block Diagram



MCB03188

C505C/C505

Pin Configuration



MCP03187