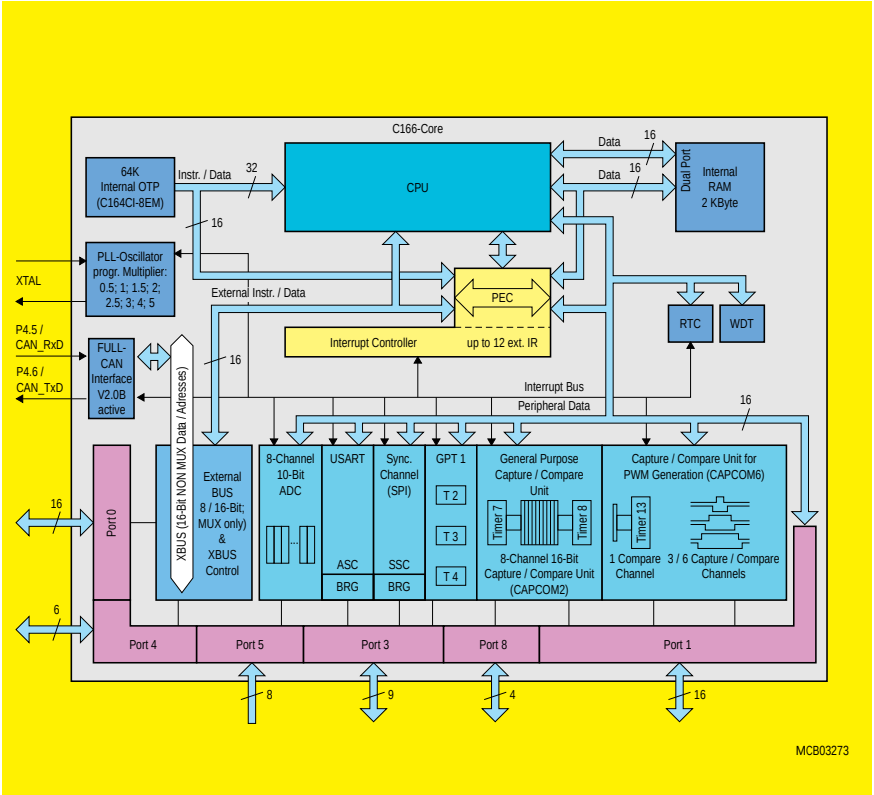
SIEMENS

C164CI
General Purpose High Performance Microcontroller with OTP on Chip

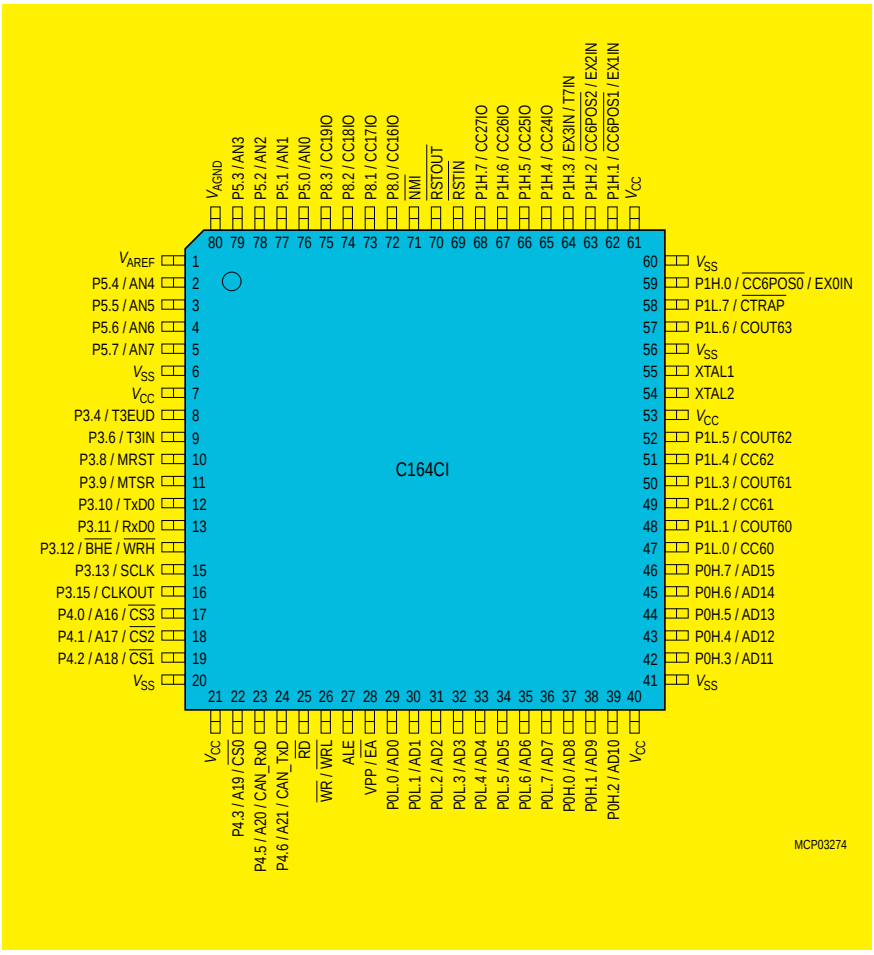
C164CI-8EM is a member of the Siemens C166 family of 16-bit microcontrollers. It was designed to meet the requirements of realtime embedded-control applications like automotive electronics or industrial control. A 64kbytes OTP programm memory and 2kbytes data memory are implemented on chip. It combines a wide variety of on chip features like CAN interface (version 2.0B active), a module for generation of PWM signals, a real time clock as well as flexible power management characteristics for battery powered applications.

- High Performance 16-bit CPU with 4-stage pipeline
- 100 ns Instruction Cycle Time at 20 MHz CPU Clock
- 500 ns Multiplication (16 x 16 bit), 1 µs division (32/16 bit)
- Enhanced Boolean Bit Manipulation Facilities
- Additional Instructions to support HLL and Operating Systems
- Register-Based Design with Multiple Variable Register Banks
- Single-Cycle Context Switching Support
- Up to 4 Mbytes Linear Address Space for Code and Data
- 2 kbytes On-Chip RAM
- 64 kbytes On-Chip OTP
- Clock Generation via On-Chip PLL or via direct of prescaled Clock Input
- Programmable External Bus Characteristics for Different Address Ranges
- 8-bit or 16-bit External Data Bus
- Multiplexed External Address/Data Bus
- Four Programmable Chip-Select Signals
- 1024 Bytes On-Chip Special Function Register Area
- Extended Power Saving Modes with Wake-up via External/Internal Interrupt
- 8-Channel Interrupt-Driven Single-Cycle Data Transfer Facilities via Peripheral Event Controller (PEC)
- 16-Priority-Level Interrupt System with 32 Interrupt Sources, Sample Rate down to 50 ns
- 8-Channel 10-bit A/D Converter with 9,7 µs Conversion Time
- One 8-Channel Capture/Compare Unit
- 3/6-Channel 16-Bit Capture/Compare Unit Dedicated for AC/DC Motor Control Applications
- Multi-Functional General Purpose Timer Unit with three 16-bit Timers
- On Chip CAN Interface (V2.0B Active)
- Two Serial Channels (Synchronous/Asynchronous and High-Speed-Synchronous)
- On Real Time Clock
- Programmable Watchdog Timer
- Oscillator Watchdog
- Up to 59 General Purpose I/O Lines
- Supported by a Large Range of Development Tools
- On-Chip Bootstrap Loader
- 80-Pin MQFP Package 0.65 mm Pitch

C164CI-8EM
Block Diagram



C164CI-8EM
Pin Configuration



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