



C163-L

Processor-Oriented Low Cost Microcontroller with up to 25 MHz CPU Clock

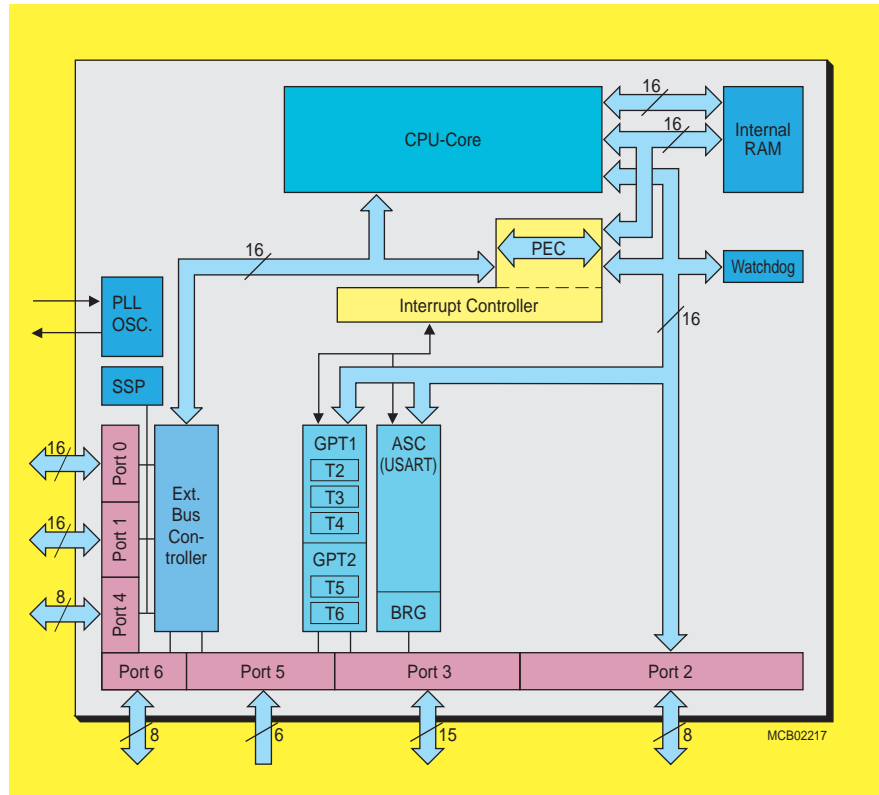
The C163* is a processor-oriented version within the Siemens C166 microcontroller family. It meets the demands of embedded applications with high-end real-time requirements and large data throughput in areas where pricing is a sensitive factor, for example in dataprocessing and telecom products.

The fastest version of the C163, the SAB-C163-L25F, needs just 80 ns at 25 MHz CPU clock to process each instruction. The C163 can operate at voltages down to 2.7V reducing the power consumption in battery-powered applications.

- High performance 16-bit CPU with 4-stage pipeline
- 80 ns instruction cycle time at 25 MHz CPU clock
- Oscillator with programmable PLL
- 3V operation at max. 14 MHz
- 400 ns multiplication (16 x 16 bit) 800 ns 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 16 MBytes linear address space for code and data
- 1 KBytes on-chip RAM
- Programmable external bus characteristics for different address ranges
- 8-bit or 16-bit external data bus
- Multiplexed or demultiplexed external address/data buses
- Five programmable chip-select signals
- Hold and hold-acknowledge bus arbitration support
- 1024 Bytes on-chip special function register area
- Idle and power down modes
- 8-channel interrupt-driven single-cycle data transfer facilities via peripheral event controller (PEC)
- 16-priority-level interrupt system with 20 sources, sample rate down to 40 ns
- Two multi-functional general purpose timer units with a total of five 16-bit timers
- Two serial channels (synchronous/asynchronous and 12.5 MBit/s fast synchronous at 25MHz CPU clock)
- Programmable watchdog timer
- Up to 77 general purpose I/O lines
- Supported by a large range of development tools such as C-compilers, macro-assembler packages, real-time operating systems, emulators, HLL-debuggers, simulators, logic analyzers disassemblers
- 100-pin TQFP-package (14 x 14 x 1.4 mm, 0.5 mm pitch; suited for PCMCIA applications)

* For complete device designations (corresponding to PRO ELECTRON) please refer to the data sheet.

C163-L Block Diagram



C163-L Pin Configuration TQFP-Package

