

P8xC557Ex



Features

- Up to 2048 bytes of internal RAM
- Five 8-bit I/O ports and one 8-bit input port
- 10-bit ADC with eight multiplexed analog inputs
- Programmable ADC autoscan mode (continuous scan or one time scan configurable)
- Fast I²C bus (up to 400 kHz) serial I/O port with byte oriented master and slave functions
- PLL oscillator with 32 kHz reference and software-selectable system clock frequency
- Wake-up from power-down by external interrupt or internal seconds interrupt
- Software enable/disable of ALE output pulse
- Electromagnetic compatibility improvements, low EMI

Benefits

- Flexibility for complex applications due to rich embedded features and good a program to data memory ratio suitable for high-level programming
- Several features to reduce electromagnetic emission and improve electromagnetic susceptibility
- Fully compatible with Philips 8xCE558 and 8xCE560 family

Applications

- Consumer
- Communication
- Car entertainment

8-bit 80C51 with up to 64 Kbytes of internal program memory, 5 I/O ports and 10-bit ADC



Description

The 8xC557Ex microcontroller (MCU) family with its high I/O count, have more RAM, program memory, and embedded features to give designers the ability to develop more sophisticated and complex applications that utilize high-level languages. They are fully compatible to the world's most popular 8-bit architecture, the 80C51.

The 8xC557E4 family is available w/o 32 Kbytes program memory and 1024 bytes RAM, whereas the 87C557E8 device has 64 Kbytes program memory and 2048 bytes of RAM.

- 83C557E4 with non-volatile 32 Kbytes mask programmable ROM
- 89C557E4 with electrically erasable 32 Kbytes EEPROM memory
- 80C557E4 is a ROMless version
- 87CE557E8 with one-time programmable 64 Kbytes (OTP) memory

The 8xC557Ex parts are cased in 80-pin plastic quad flat pack (PQFP) packages.

All devices feature an embedded 10-bit ADC, I²C serial bus interface, watchdog timer, pulse-width modulation (PWM) channels, UART, low EMI, and 3 counter/timers.

Combining the devices' 10-bit, 8-channel Analog-to-Digital Converter (ADC) and the pulse-width modulation (PWM) capability means they can support applications that require the measurement of a high-resolution analog parameter such as temperature. In order to have minimum ADC service overhead, the ADC is able to operate autonomously within its user configurable autoscan function.

Ordering information (80-pin QFP, 3.5 to 16 MHz, -40 to 85°C)

North America Part Type	Worldwide Part Type	Memory	Type	RAM
P80C557E4 B	P80C557E4EFB/01	—	ROM-less	1024
P83C557E4 B	P83C557E4EFB/xxx	32 K	ROM	1024
P89C557E4 B	P89C557E4EFB/01	32 K	Flash	1024
P89C557E8 B	P87C557EFB/01	64 K	OTP	2048

Notes:

1. ROM devices are custom devices that are ordered under special agreement. Contact Philips directly.
2. Tape and reel also available. Contact Philips directly.

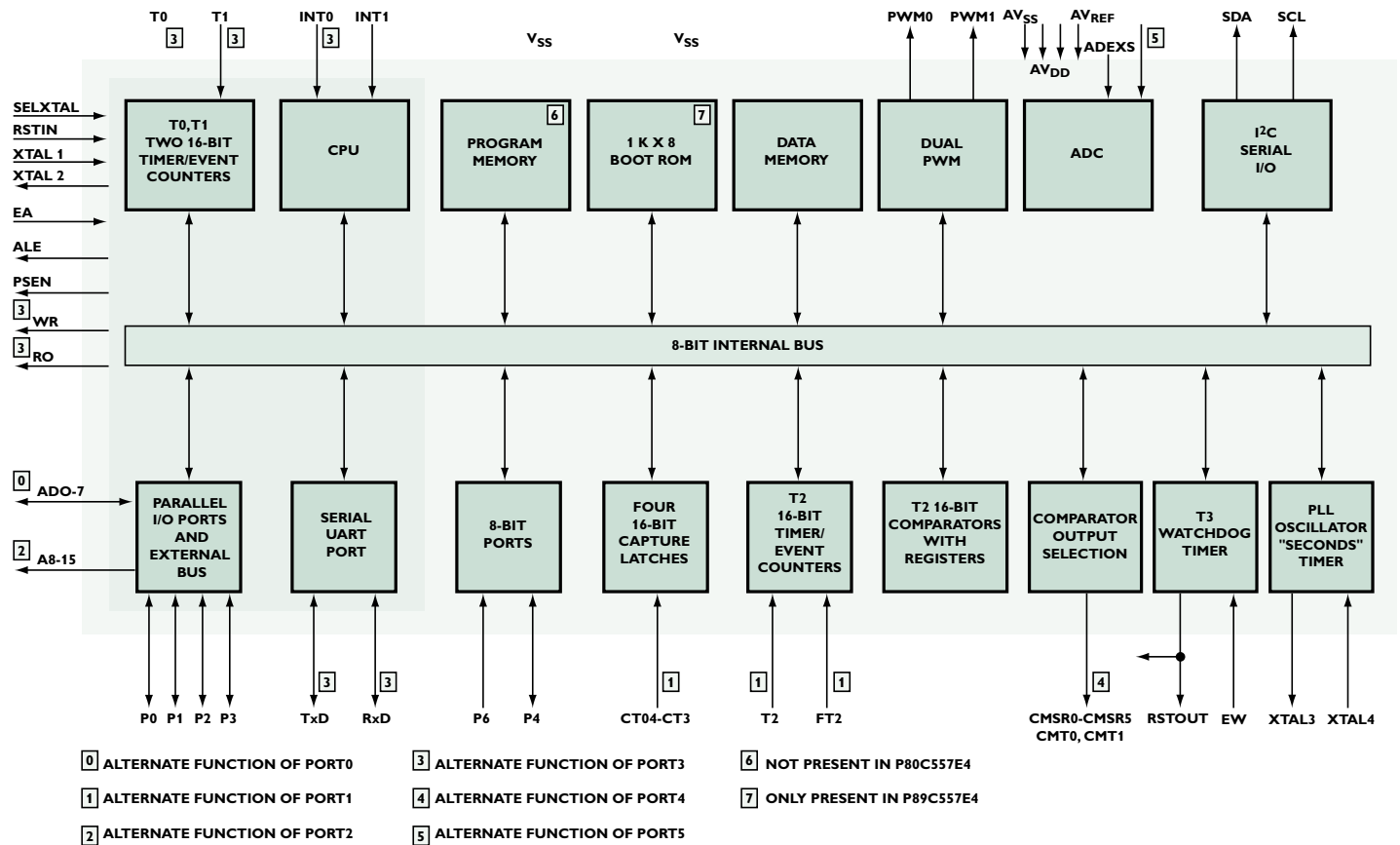
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8-bit 80C51 with up to 64 Kbytes of internal program memory,
5 I/O ports and 10-bit ADC



P8xC557Ex block diagram



Purchase of Philips I²C components conveys a license under the Philips' patent to use the components in the I²C system provided the system conforms to the I²C specification defined by Philips.

www.semiconductors.philips.com/microcontrollers



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