# Single-Chip 8-Bit Microcontroller with CAN Controller

## P87C591VFA

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The P8xC591 is a single-chip 8-bit-high-performance microcontroller, with on-chip CAN-controller, derived from the 80C51 microcontroller family.

It uses the powerful 80C51 instruction set and includes the successful PeliCAN functionality of the SJA1000 CAN controller from Philips Semiconductors.

The fully static core provides extended power save provisions as the oscillator can be stopped and easily restarted without loss of data. The improved internal clock prescaler of 1:1 achieves a 500 ns instruction cycle time at 12 MHz external clock rate.

The microcontroller is manufactured in an advanced CMOS process, and is designed for use in automotive and general industrial applications. In addition to the 80C51 standard features, the device provides a number of dedicated hardware functions for these applications.

Two versions of the P8xC591 will be offered:

- P83C591 (with ROM)
- P87C591 (with OTP)

Hereafter these versions will be referred to as P8xC591. The temperature range includes (max. fCLK= 12 MHz):

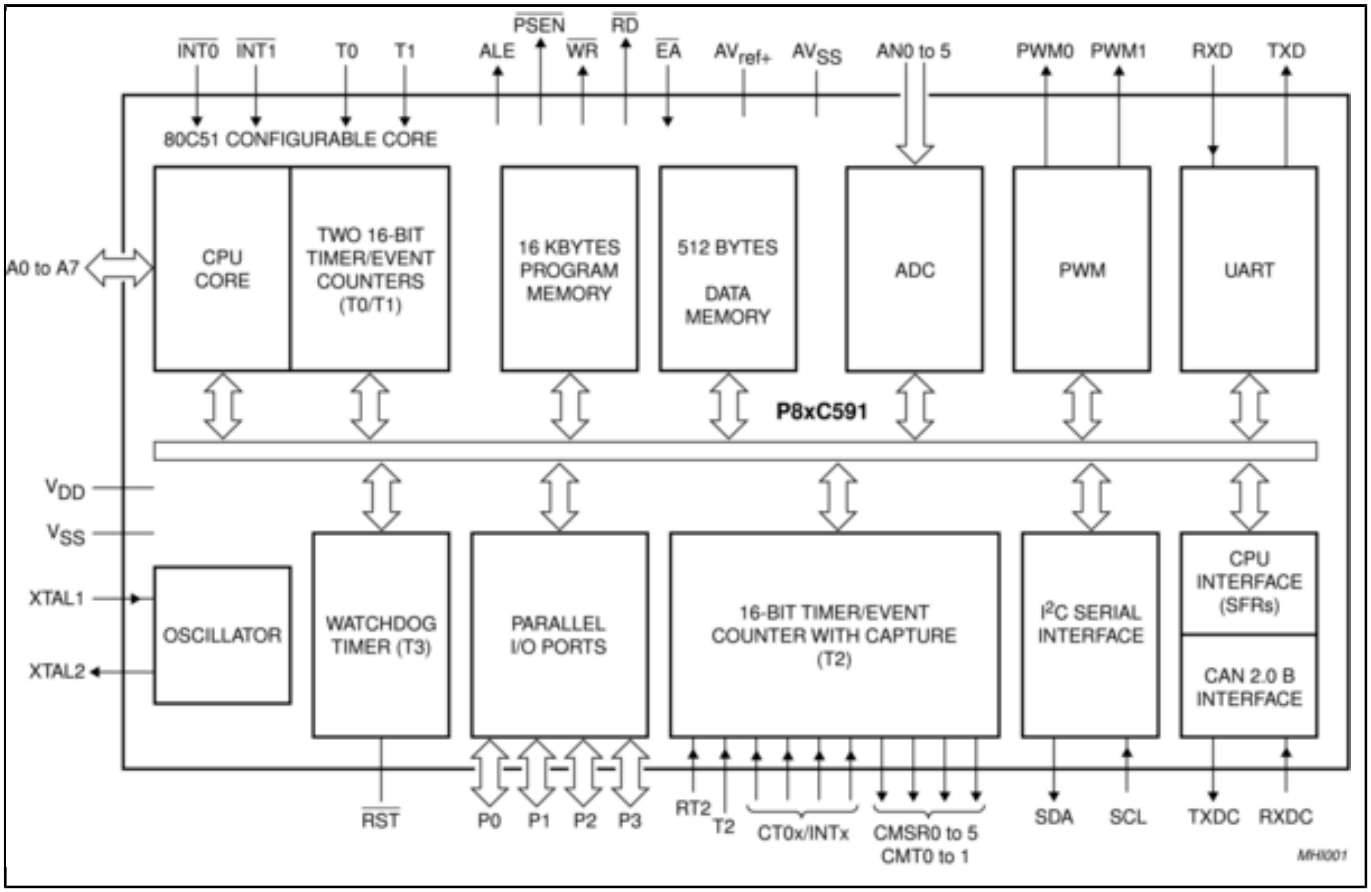
- -40 to +85 Cel version, for general applications The P8xC591 combines the functions of the P87C554 (microcontroller) and the SJA1000 (stand-alone CAN-controller) with the following enhanced features:
- Enhanced CAN receive interrupt (level sensitive)

- Extended acceptance filter
- Acceptance filter changeable "on the fly".

The main differences between P8xC591 and P87C554 are:

- CAN-controller on chip
- 6-input ADC
- Low active Reset
- 44 leads.

### Block diagram: P87C591VFA Block Diagram

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**Note:** The information on this document is subject to change without notice.

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