

ST10 family

Advanced 16-bit microcontroller solutions

Datasheet

STMicroelectronics' ST10 microcontroller family offers a wide range of devices for use in the automotive market. It combines high CPU performance with high peripheral functionality and enhanced I/O-capabilities. The ST10 architecture is a 16-bit instruction word microcontroller with 4-stage pipeline. Clocked at 64MHz, it executes speed critical routines, so instructions typically execute in 31.25ns. DSP algorithms are supported by an integrated 40-bit wide MAC unit and a true DSP instruction set that eliminates software bottlenecks.

The ST10 family integrates scalable state-of-the-art single voltage embedded Flash, from 128 to 832KB. Processed in 0.18 μ m CMOS technology, it offers full 5V capability and an internal on-chip voltage regulator.

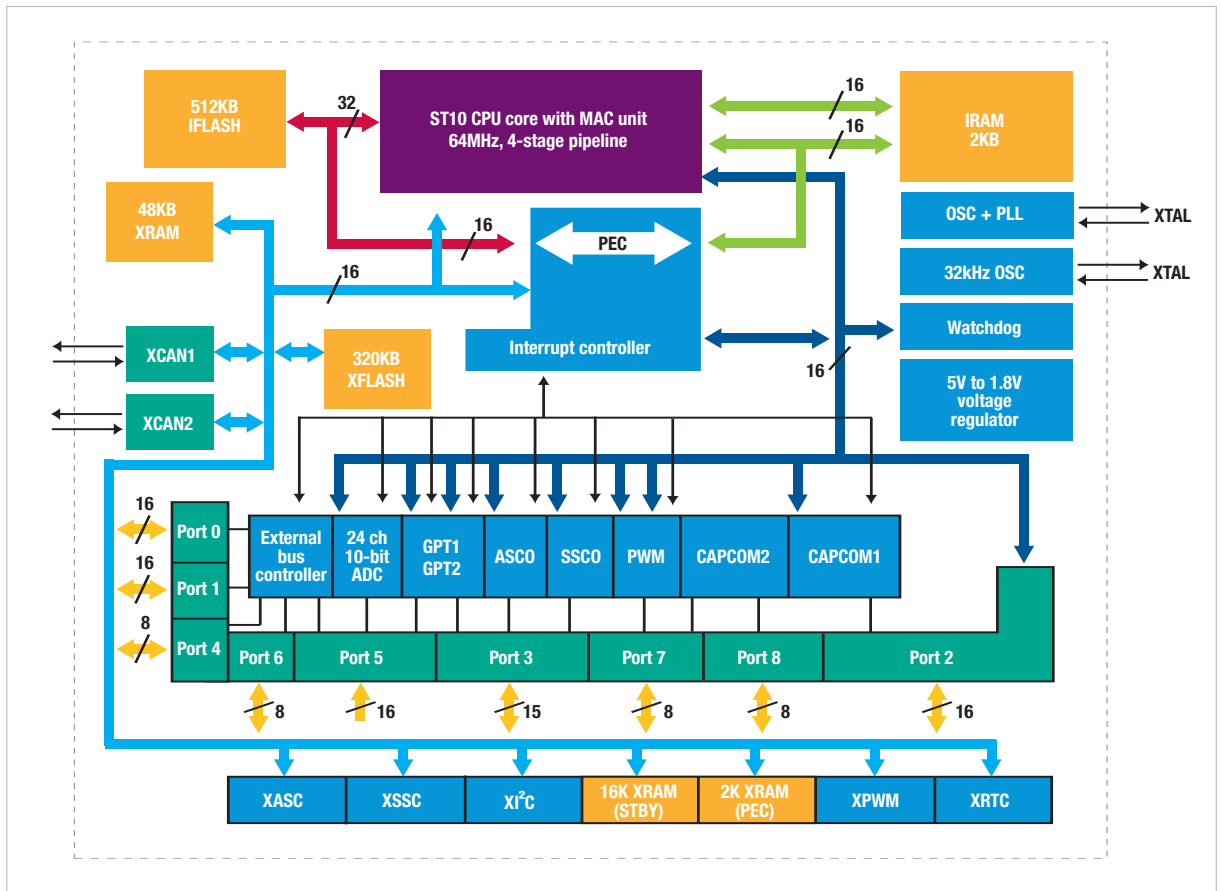
Key features

- High-performance industry standard ST10 core with DSP unit
- Extensive software and tools
- Large choice of peripherals and interfaces, same peripheral set across the ST10F2xx family
- Single 5V power supply
- High-quality embedded Flash (data retention 20 years at 55°C)
- Tightly coupled DMA: real-time CPU core
- Rich package options
- Operating temperature range: -40 to 125°C
- Fully automotive qualified

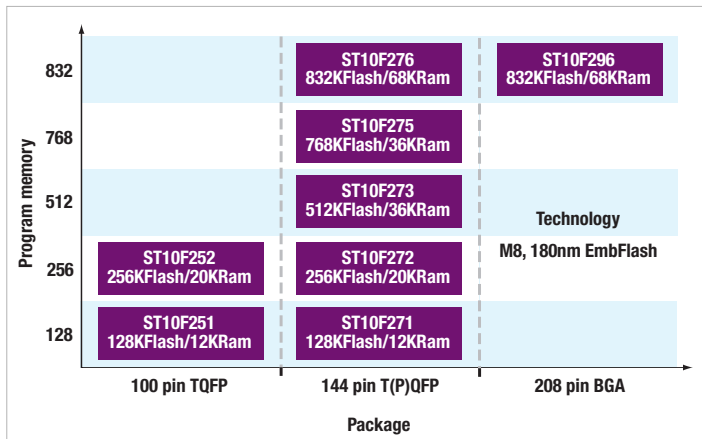
Key benefits

- Future-proof microcontrollers that easily adapt to customer requirements
- Dramatically reduces development time and increases ease-of-use
- Reduces system cost with all peripherals in a single chip
- Native supply of automotive applications. No 3.3V conversion needed
- Suitable for long-life equipment
- Optimizes your developments: the same device with different options will fit your entire product range
- Increases validity for high temperature applications

ST10F276 block diagram



ST10 family – available product portfolio



Family features

- 64MHz ST10 CPU with DSP functions
- 5V single supply, on-chip voltage regulator
- Up to 832KB embedded Flash
- Up to 68KB on-chip high-speed RAM
- Rich set of system peripherals
- Packages: TQFP100, T(P)QFP144, BGA208
- Operating temperature range: -40 to 125°C
- Mask ROM is available



© STMicroelectronics - February 2006 - Printed in Italy - All rights reserved

The STMicroelectronics corporate logo is a registered trademark of the STMicroelectronics group of companies. All other names are the property of their respective owners.

For selected STMicroelectronics sales offices fax:

China +86 21 52574820; France +33 1 55489569; Germany +49 89 4605454; Italy +39 02 8250449; Japan +81 3 57838216; Singapore +65 6481 5124; Sweden +46 8 58774411; Switzerland +41 22 9292900; United Kingdom and Eire +44 1628 890391; USA +1 781 861 2678

Full product information at www.st.com