

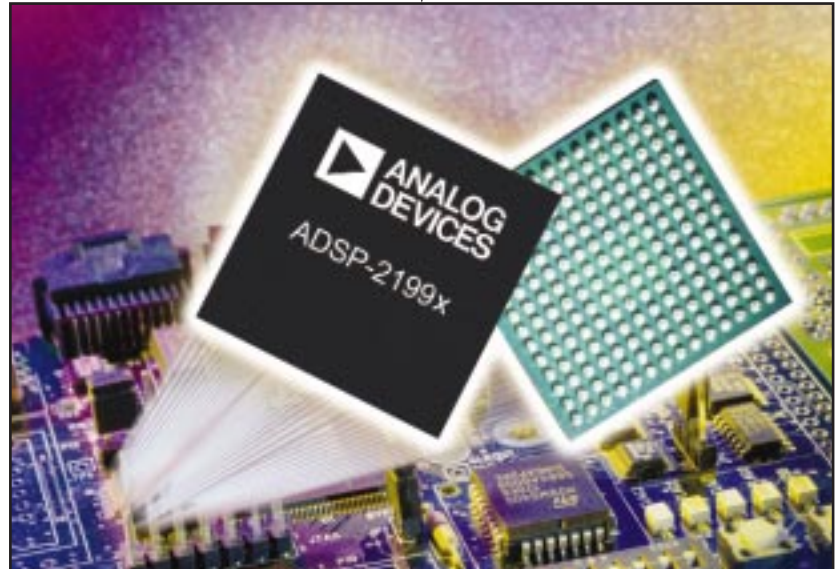
The ADSP-2199x Family: Mixed-Signal DSPs for Embedded Control and Signal Processing Applications

Key Features

- 160 MHz, ADSP-219x DSP core
- 8-channel, 14-bit, 20 MSPS ADC
- On-chip voltage reference and power-on-reset
- Up to 32K words program memory RAM
- Up to 16K words data memory RAM
- External memory interface (to 1M Word)
- Embedded control peripherals
 - Three-phase PWM generation unit
 - Incremental encoder interface unit
 - Dual auxiliary PWM outputs
 - Watchdog timer
 - Three 32-bit, general-purpose timers
 - 16-bit general-purpose flag I/O port
 - Peripheral interrupt controller
 - Synchronous serial (SPORT) and SPI
 - Controller area network (CAN) interface 2.0B version
- Temperature Range
 - Industrial (-40°C to 85°C)
 - Automotive (-40°C to 125°C)

Benefits

- ADSP-219x core delivers highest performance mixed-signal DSP for control designs with up to 160 MIPS sustained performance
- Code-compatible solution ensures investment protection with lower software cost
- Versatile peripheral set in highly integrated environment, essential for real-world motor control applications
- State-of-the-art development tools
- Small 196-ball BGA and 176-lead LQFP packages
- Integrated single-chip, pin-compatible solutions facilitate high performance design with high reliability, reduced development time, and lower overall system cost
- External memory interface provides direct access from DSP to external memory for data or instruction
- Fabricated in high speed, low power consumption CMOS process
- Three computational units increase computational efficiency



The new award winning ADSP-2199x family of mixed-signal DSPs integrates high precision analog with enhanced control-peripheral functionality on a high performance, code-compatible DSP core platform.

A DSP Technical Innovation

The award winning ADSP-2199x family of mixed-signal DSPs provides a single-chip high performance solution with signal processing and mixed-signal integration for current and future embedded control and signal processing applications. These products combine the ADSP-219x code-compatible DSP core, multichannel, high resolution analog/digital conversion, the right mix of embedded control peripherals, and comprehensive development tools.

A variety of memory sizes address emerging market requirements with power efficient and high performance solutions, giving designers the flexibility to create the most cost-effective solution. They will also appreciate these solutions, ideal for both decentralized multiple processor systems, such as power converter current control or position sensor interface functions, and single processor discrete solutions for the control functions of embedded control applications. These fully integrated DSPs deliver significant advantages with simplified ease of use, lower total solution cost, and investment protection.

Development Tools

All ADSP-219x products, including the ADSP-2199x series, are supported by ADI's CROSSCORE® software and hardware development tools. The development tools suite includes the VisualDSP++ integrated software development environment with the C/C++ compiler, VisualDSP++ Kernel (VDK), advanced plotting tools, and statistical profiling to quickly identify bottlenecks and reduce development time. The tools suite also includes a low-cost EZ-KIT Lite® evaluation platform that can also be extended with JTAG in-circuit emulation (ICE) for full control of software debugging. PCI and USB versions of the emulator are also available.

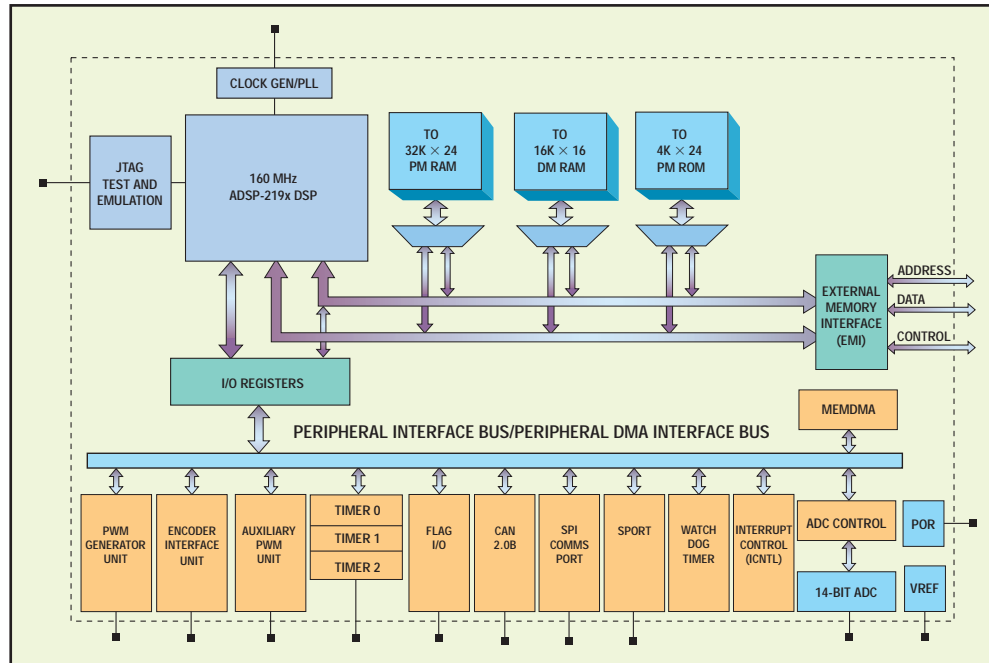
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The ADSP-2199x chip architecture.

Applications

- Industrial motor drives
- Uninterruptible power supplies
- Optical networking control
- Data acquisition systems
- Test and measurement systems
- Portable instrumentation
- Intelligent sensors
- Robotic control

ADSP-2199x Support

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