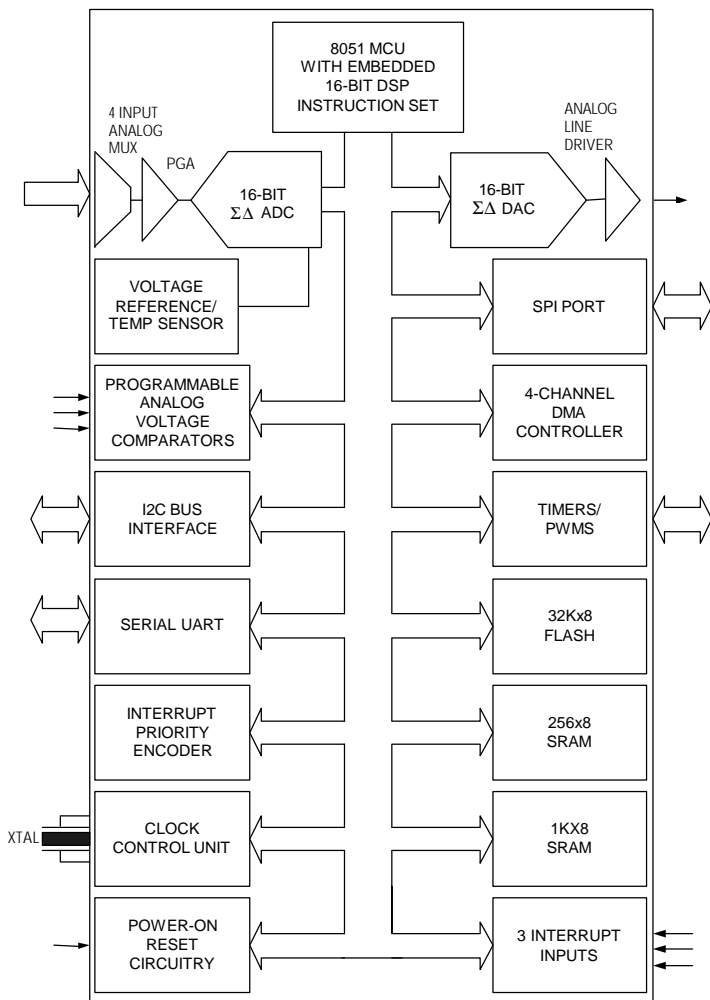


MIXED-SIGNAL MICRO DSP

Overview

The VERSA DSP is a highly integrated, 8051 based, high performance data acquisition system that includes an embedded DSP instruction set and 16-bit Sigma-Delta A/D and D/A converters. This product has been developed for applications requiring high speed, high-resolution analog data acquisition and real time digital signal processing capabilities.

The VERSA DSP maintains the VERSA SoC philosophy by providing a full set of complementary peripherals such as serial interfaces, programmable analog voltage comparators, individually configurable I/Os and a number of other analog and digital embedded functions and features.



Applications

- Automotive, Medical, Commercial, Industrial Applications
- Transducers
- Measurement Systems
- Battery Powered Systems (Instruments, Monitors)
- Intelligent Sensors (IEEE 1451.2 Compatible)
- Pattern Recognition
- Audio Applications

Feature Set

- 4-Channel Analog Multiplexer to A/D Converter
- Chopper Stabilized Programmable Gain Amplifier to A/D Converter
- 16-bit ΣΔ A/D Converter
 - Up to 50KHz Conversion Speeds
- 16-bit ΣΔ D/A Converter
 - Up to 50KHz Conversion Speeds
- On-chip Precision Reference Voltage
- 3 Programmable Analog Voltage Comparators
- 8051 Compatible RISC μProcessor with Embedded DSP Instruction Set
 - Up to 100MHz Operation
 - Addition of 16-bit DSP Instruction Set
 - Standard 8051 Instruction Set
 - RISC Based 8051 Architecture
 - Dual Data Pointers
- Clock Control
 - Crystal, RC or Internal Oscillator
- On-chip Flash Memory
 - 32Kx8 Program/Storage Memory (16Kx16 for DSP)
 - Flash Programming via I²C Interface or JTAG
- On-chip SRAM
 - 2Kx8 Scratch Pad SRAM Mapped into External Memory Space - 1Kx16 for DSP
 - 256x8 SRAM Mapped into Internal Processor RAM
- 2 Full Duplex Asynchronous UARTs
- SPI Bus - Master/Slave Operation
- Up to 32 General Purpose I/Os
- 3 General Purpose Interrupt Inputs
- 4 PWM Outputs
- 3 General Purpose Reset Timers/Counters
- Power-on Reset with Brown-Out Detect
- Power Savings Features
- Temperature Sensor
- JTAG Based Programming & Debugging