

High-Performance Versa 8051 MCU

General Description

The VRS51L2070 is a high performance, 8051-based microcontroller coupled with a fully-integrated array of peripherals for addressing a broad range of embedded design applications.

Based on a powerful 40-MIPS, single-cycle, 8051 microprocessor, the VRS51L2070's memory sub-system includes, 64KB of Flash and 4352 bytes of SRAM.

Support peripherals include a hardware based arithmetic unit capable of performing complex mathematical operations, JTAG interface for Flash programming and non-intrusive In-Circuit Debugging/Emulation, precision internal oscillator, and a watchdog timer.

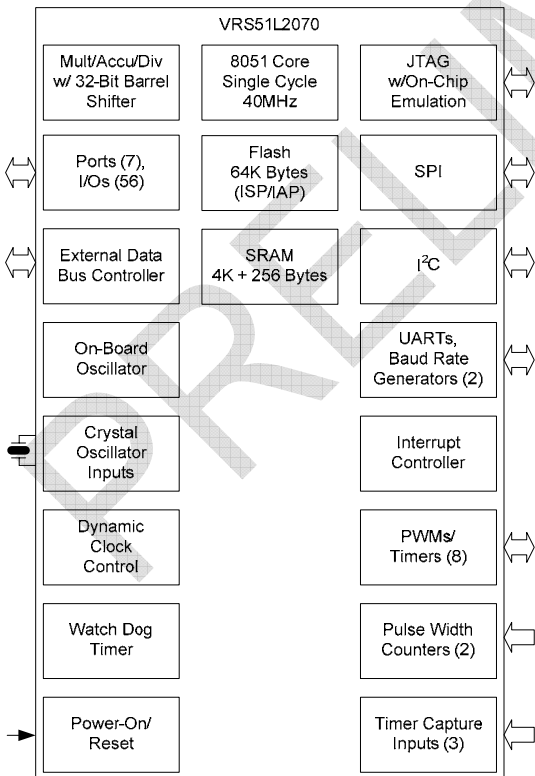
Communication and control of external devices is facilitated via an assortment of digital peripherals which include an enhanced fully configurable SPI bus, I²C interface, dual UARTs with dedicated baud rate generators, eight PWM controllers, three 16-bit timers and two pulse width counter modules.

The VRS51L2070 is powered by a 3.3 volt supply, can function over the industrial temperature range, and is available in a QFP-64 package (see VRS51L21xx for PLCC-44 and QFP-44 packages – pin-compatible with the industry standard 8051 microcontroller footprint).

Features

- 8051 High Performance Single Cycle Processor (Operation up to 40 MIPS)
- 64KB Flash (program memory, In-System/In-Application Programmable)
- 4KB + 256 Bytes of SRAM (4K Bytes - program or data memory)
- JTAG Interface for Flash Programming and Non-Intrusive Debugging/In-Circuit Emulation
- MULT/DIV/ACCU Unit including Barrel Shifter
- 56 General Purpose I/Os
- 2 Serial UARTs/2 Baud Rate Generators (16-bit)
- Enhanced SPI Interface (fully configurable word size)
- Fully configurable I²C Interface (Master/Slave)
- 16 External Interrupt Pins/Interrupt On Port Pin Change
- 16-bit General Purpose Timer/Counters
- 3 Timer Capture Inputs
- 2 Pulse Width Counter Modules
- 8 PWM Controller Outputs with Individual Timers
- PWMs can be used as General Purpose Timers
- Precision Internal Oscillator
- Dynamic System Clock Frequency Adjustment
- Power Saving Features
- Power-On Reset/Brown-Out Detect
- Watchdog Timer

Functional Diagram



Pin Configuration

