VRS51L1050

Product Tech Brief *Rev 1.0*

Versa 3.3 Volt 8051 MCU with 64KB of IAP/ISP Flash

General Description

The VRS51L1050 is based on the standard 8051 microcontroller architecture and is a pin compatible drop-in replacement for most 8051 MCUs.

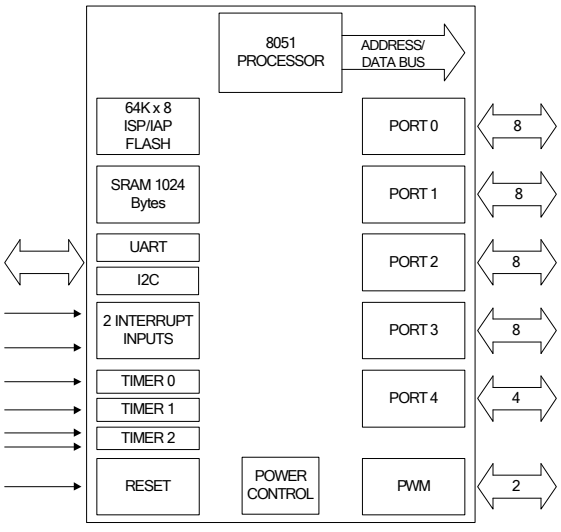
The VRS51L1050 is designed for applications that require a large amount of program/data memory with non-volatile data storage and/or code/field based firmware upgrade capability coupled with comprehensive peripheral support. It features 64KB of In-System/In-Application Programmable Flash, 1KB of SRAM, an I^2C-compatible interface, three 16-bit timers, two PWMs, a UART and the capability to exit power down mode from an external interrupt (INT0/INT1).

Ideal for battery-powered applications, the VRS51L1050 registers and I/Os maintain their current value in power down mode, but the oscillator is disabled enabling the supply current to drop below 20uA.

The VRS51L1050 is available with firmware that enables In-System Programming (firmware based boot-loader) of the Flash memory via the UART interface (ISPV3 version). General Flash memory programming is supported by device programmers available from Ramtron and 3rd party suppliers.

The VRS51L1050 is available in PLCC-44, QFP-44 and DIP-40 packages and functions over the commercial temperature range.

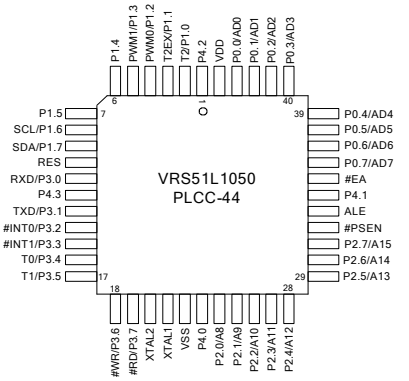
Functional Diagram

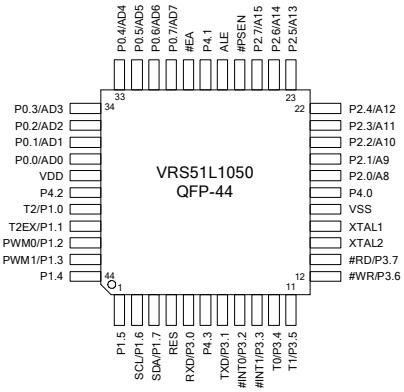


Features

- 8051/8052 pin compatible
- 64KB on-chip Flash memory
- In-System/In-Application Flash Programming (ISP/IAP)
- On-chip Charge Pump for Flash Programming
- 1024 Bytes on-chip Data RAM
- Four 8-bit I/O Ports, one 4-bit I/O Port
- 2 PWM Outputs on P1.2 to P1.3 (8/5-bit resolution)
- 1 Full Duplex UART Serial Port
- I²C-compatible Interface
- Three 16-bit Timers/Counters
- Bit Operation Instruction
- 8-bit Unsigned Division and Multiply
- BCD Arithmetic
- Direct and Indirect Addressing
- 7 Interrupt Sources and 2 Levels of Interrupt Priority
- Power saving modes
- Wakeup from Power Down by Ext. Interrupt or Reset
- Code protection function
- Low EMI (inhibit ALE)
- Commercial Temperature Range (0°C to +70°C)
- 3.3V Operating Voltage

Pin Configuration





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