S1C33S01



32-bit Single Chip Microcontroller

- High-speed 32-bit RISC Core
- Multiply Accumulation
- 8K-byte RAM Built-in
- 2-ch. SIO

■ DESCRIPTIONS

The S1C33S01 consists of the S1C33000 32-bit RISC type CPU as the core, a bus control unit, an interrupt controller, timers, serial interface circuits, 8K-byte RAM and other circuits. It also includes a high-speed oscillation circuit, PLL and low-speed oscillation circuit allowing high-speed operation and low-power operation with excellent clock functions. The S1C33S01 also provides a DSP function, by using the internal MAC (multiplication and accumulation) operation function, it makes it possible to design simply voice synthesis systems.

■ FEATURES

 CMOS LSI 32-bit parallel processing S1C33000 RISC core

Main clock 50MHz (Max., up to 12.5MHz external clock input)

Sub clock 32.768kHz (Typ., crystal)

Instruction set 16-bit fixed length, 105 instructions

(MAC instruction is included, 2 cycles)

Internal RAM size 8,192 bytes Clock timer 1 channel

Programmable timer 8 bits × 4 channels and 16 bits × 6 channels Watchdog timer Realized with a 16-bit programmable timer

Serial interface

Clock synchronization type and asynchronization type are selectable.

Usable as an infrared ray (IrDA) interface.

●I/O port I/O port: 29 bits

Pins are shared with the inputs and outputs of built-in peripheral circuits.

Interrupt controller External interrupts: 8 types Internal interrupts: 23 types

External bus interface 24-bit address bus

(High-order 4 bits are shared with the I/O ports)

16-bit data bus 6 chip enable pins (shared with the I/O ports)

SRAM, DRAM and burst ROM may be connected directly.

Shipping form QFP15-100pin

Supply voltage 1.8 to 3.6V (single power supply)

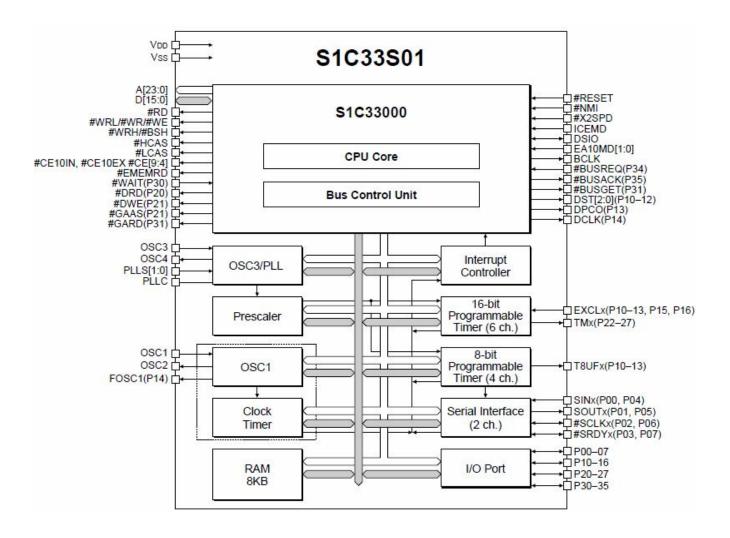
SLEEP state: 10µA (3.3V, 32.768kHz, clock timer run state, Typ.) Current consumption

: 2.5µA (2.0V, 32.768kHz, clock timer run state, Typ.)

RUN state: 49mA (3.3V, 60MHz Typ.)

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■ Block Diagram



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Document code: 411876400 First issue Dec, 2009