S1C33209



32-bit Single Chip Microcontroller

- High-speed 32-bit RISC Core
- Multiply Accumulation
- Built-in 8K-byte RAM
- 10-bit ADC
- 4-ch. SIO
- High-speed DMA, Intelligent DMA

■ DESCRIPTIONS

The S1C33209 is a CMOS 32-bit microcomputer composed of a CMOS 32-bit RISC core, 8K-byte RAM, 4-channel SIO, A/D converter, timers, PLL and other circuits. The S1C33209 features high-speed operation and low current consumption. It is suitable for various portable equipment and multimedia control systems. The S1C33209 also provides a DSP function using the internal MAC (multiplication and accumulation) operation function with the A/D converter, this makes it possible to achieve speech recognition and voice synthesis systems.

■ FEATURES

● CMOS LSI 32-bit parallel processing S1C33000 RISC core

Main clock
60MHz (Max., up to 15MHz 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■ Clock timer8,192 bytes1 channel

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

Serial interface4 channels

Clock synchronization type and asynchronization type are selectable.

Usable as an infrared ray (IrDA) interface.

● 10-bit A/D converter
Successive approximation type, 8 input channels

◆ High-speed DMA
◆ Intelligent DMA
◆ I/O port
★ I/O port
★ I/O port : 69 bits

● Interrupt controller External interrupts : 13 types Internal interrupts: 29 types

External bus interface 24-bit address bus, 16-bit data bus, 7 chip enable pins

DRAM and burst ROM may be connected directly.

● Shipping form QFP15-128pin

● Supply voltage Core voltage: 1.8 to 3.6V

I/O voltage: 1.8 to 5.5V

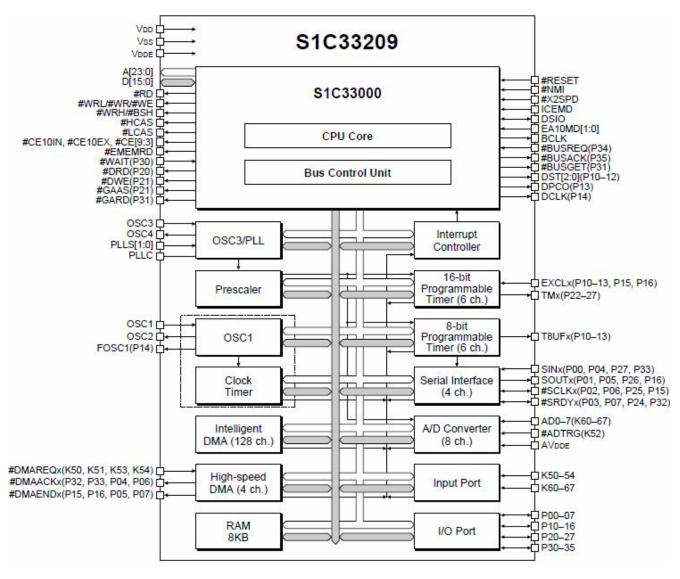
● Current consumption SLEEP state: 10µA (3.3V, 32.768kHz, clock timer run state, Typ.)

: $2.5\mu A$ (2.0V, 32.768kHz, clock timer run state, Typ.)

RUN state: 65mA (3.3V, 50MHz Typ.)

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■ Block Diagram



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