S1C33209

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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

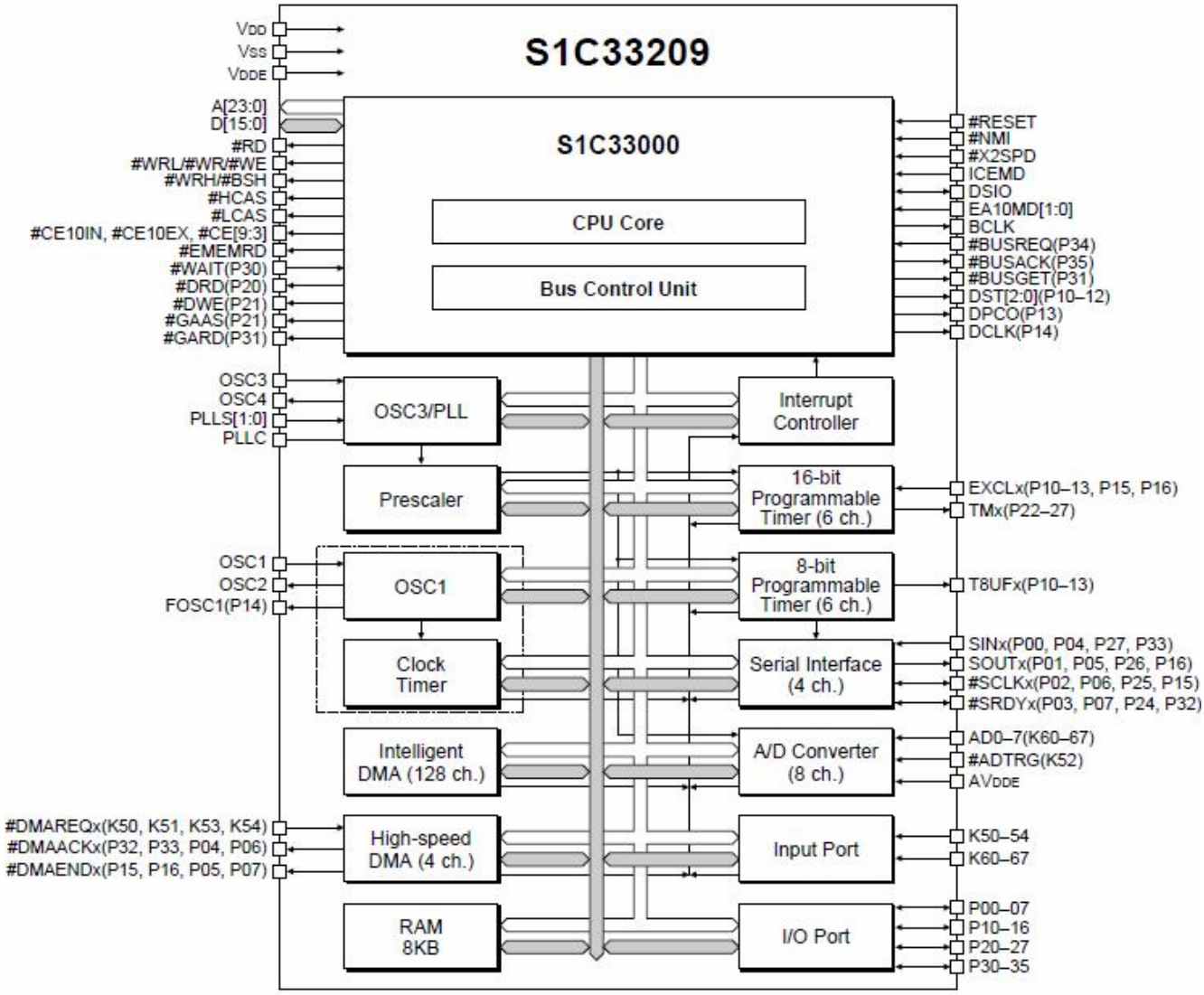
■ DESCRIPTIONS

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	8,192 bytes
●Clock timer	1 channel
●Programmable timer	8 bits × 6 channels and 16 bits × 6 channels
●Watchdog timer	Realized with a 16-bit programmable timer
●Serial interface	4 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	4 channels
●Intelligent DMA	128 channels
●I/O port	Input port : 13 bits 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.) : 2.5μA (2.0V, 32.768kHz, clock timer run state, Typ.) RUN state : 65mA (3.3V, 50MHz Typ.)

■ Block Diagram



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