S1C33T01

32-bit Single Chip Microcontroller

- High-speed 32-bit RISC Core
- Multiply Accumulation
- 8K-byte RAM Built-in
- 10-bit ADC
- 4-ch. SIO, 2-ch. I^2C
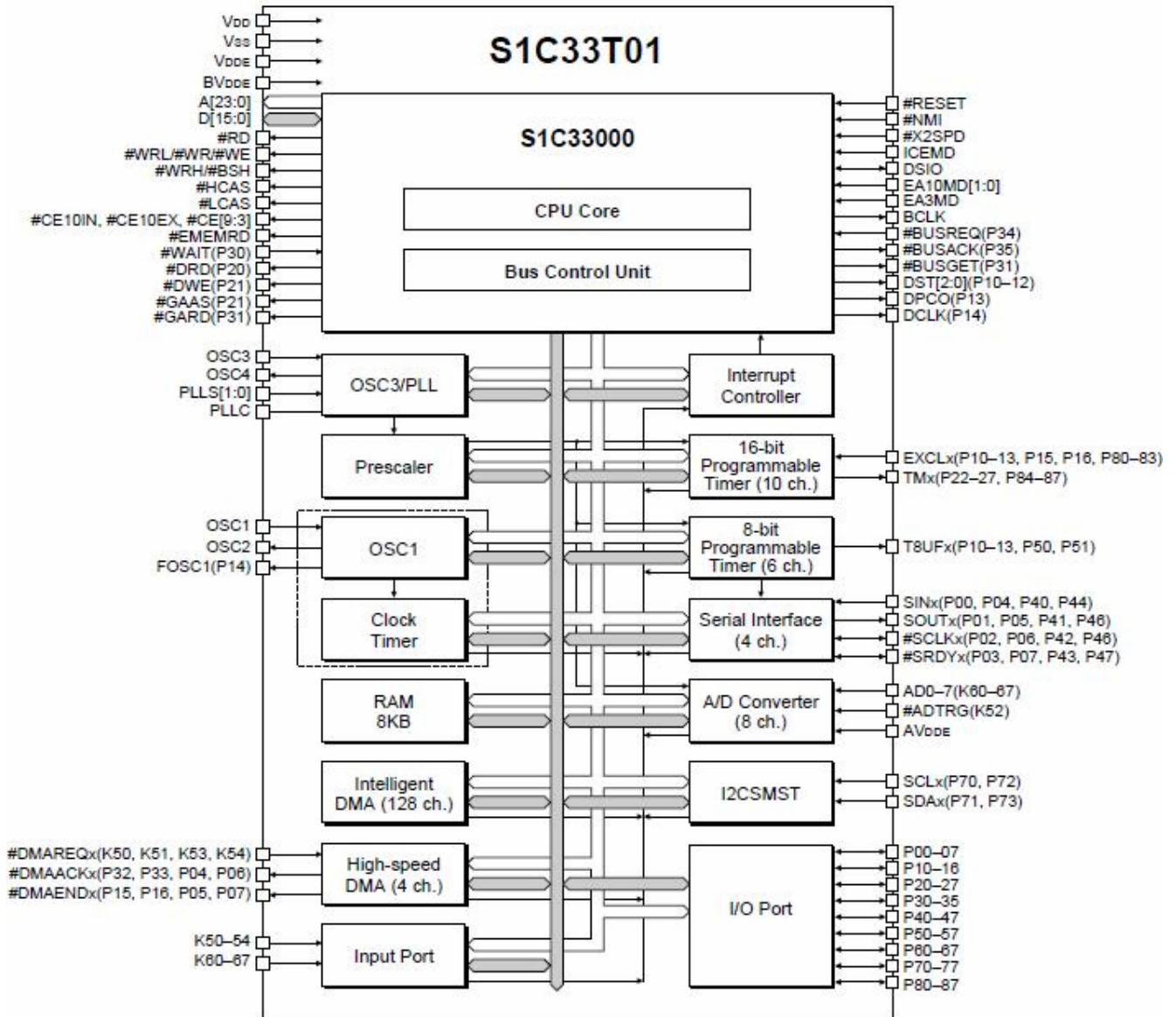- High-speed DMA, Intelligent DMA

■ DESCRIPTIONS

The S1C33T01 is a CMOS 32-bit microcomputer composed of a CMOS 32-bit RISC core, 8K-byte RAM, DMA, 4-ch. SIO, 2-ch. I2C, ADC, timers, PLL and oscillators. The S1C33T01 features high-speed operation and low current consumption. The S1C33T01 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 × 10 channels
● PWM timer	Realized with a 16-bit programmable timer
● 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.
● I^2C bus	Single master type, 2 channels (option)
● 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 : 18 types Internal interrupts: 69 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	QFP21-176pin
● 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.)

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■ Block Diagram

NOTICE: