

## 32-bit Single Chip Microcontroller

- High-speed 32-bit RISC Core
- Multiply Accumulation
- 10-bit ADC
- Built-in RAM
- High-speed DMA, Intelligent DMA
- Twin-clock Oscillator
- Built-in Flash Memory

### ■ DESCRIPTIONS

The S1C33240 is a CMOS 32-bit microcomputer composed of a CMOS 32-bit RISC core, Flash\*, RAM, DMA, timers, SIO, PLL and other circuits. The S1C33240 can be operated with high speed and spend little current. With the ADC, PWM and the MAC function, the S1C33240 is suitable for voice applications, PDAs and OA products such as printers.

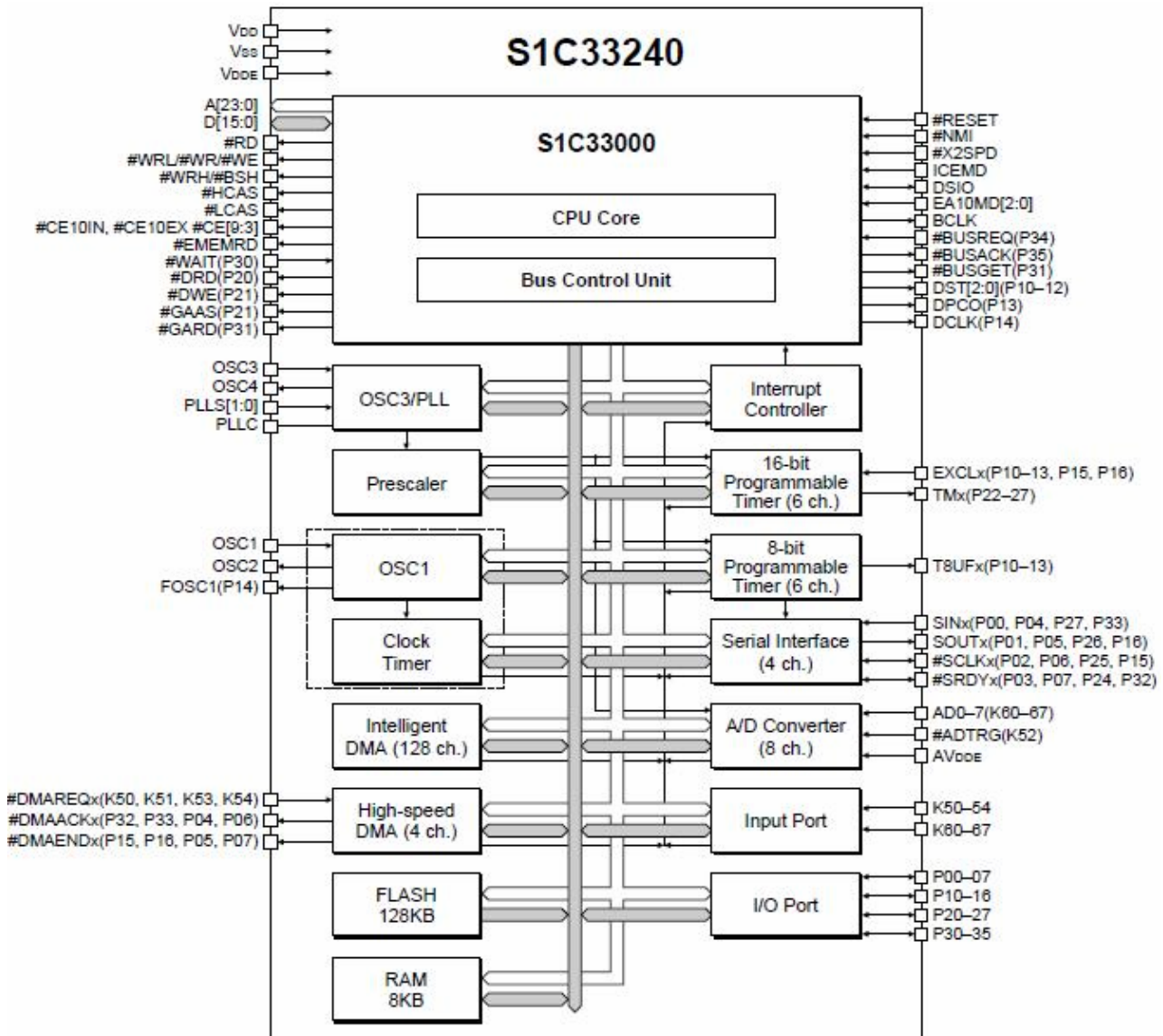
### ■ FEATURES

- CMOS LSI 32-bit parallel processing S1C33000 RISC core
- Main clock 50MHz (Max., up to 10MHz 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
- Internal Flash memory size 131,072 bytes (Accessible with 0 wait states for up to 20MHz)
- Clock timer 1 channel
- Programmable timer 8 bits × 4 channels and 16 bits × 6 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.  
Successive approximation type, 8 input channels
- 10-bit A/D converter 4 channels
- High-speed DMA 128 channels
- Intelligent DMA Input port : 13 bits
- 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 : 10 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 : 2.7 to 3.6V  
I/O voltage : 2.7 to 5.5V
- Current consumption SLEEP state : 16μA (3.3V, 32.768kHz, clock timer run state, Typ.)  
RUN state : 65mA (3.3V, 40MHz Typ.)

\* This product uses SuperFlash® technology licensed from Silicon Storage Technology, Inc.

# S1C33240

## ■ Block Diagram



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