SHARP®

Integrated Circuits Group

APPLICATIONS:
- Notebook PC
- Battery Charger

SM5K6/SM5K7 4-Bit Single-Chip Microcomputers

FEATURES

- ROM capacity
  - 4,096 × 8-bits (SM5K6)
  - 8,192 × 8-bits (SM5K7)
- RAM capacity
  - 256 × 4-bits (SM5K6)
  - 512 × 4-bits (SM5K7
- Instruction sets
  - 52 (SM5K6)
  - 54 (SM5K7)
- 8 levels of subroutine nesting
- I/O port
  - 4 input
  - 20 input/output
- Interrupts
  - Internal interrupt × 3 (2 timers, 1 serial interface)
  - External interrupt × 2 (2 external interrupt inputs)
- A/D converter
  - 10-bits resolution
  - 8 Input channels
- Timer/counter 8-bit × 2
- Serial interface 8-bit synchronous × 1
- Watchdog timer 8-bit × 1 (also used as Timer 2)
- Built-in main clock oscillator for system clock
  - CR/ceramic/crystal oscillator
- Signal generation for real time clock (in case of using crystal oscillator)
- Built in 15 stages divider for real time clock (in case of using crystal oscillator)
- Instruction cycle time
  - 1 µs MIN. (4 MHz, at 5 V ±10%)
  - 4 µs MIN. (1 MHz, at 2.0 V to 5.5 V)
  - 122 µs MAX. (32.768 kHz, at 2.0 V to 5.5 V)
- Large current output pins (LED direct drive)
  - 15 mA TYP. × 8 (sink current)
- Buzzer output
- Supply voltage: 2.0 to 5.5 V
- Packages
  - 30-pin SDIP (SDIP030-P-0400)[1]
  - 32-pin SOP (SOP032-P-0525)[2]
  - 36-pin QFP (QFP036-P-1010)[2]

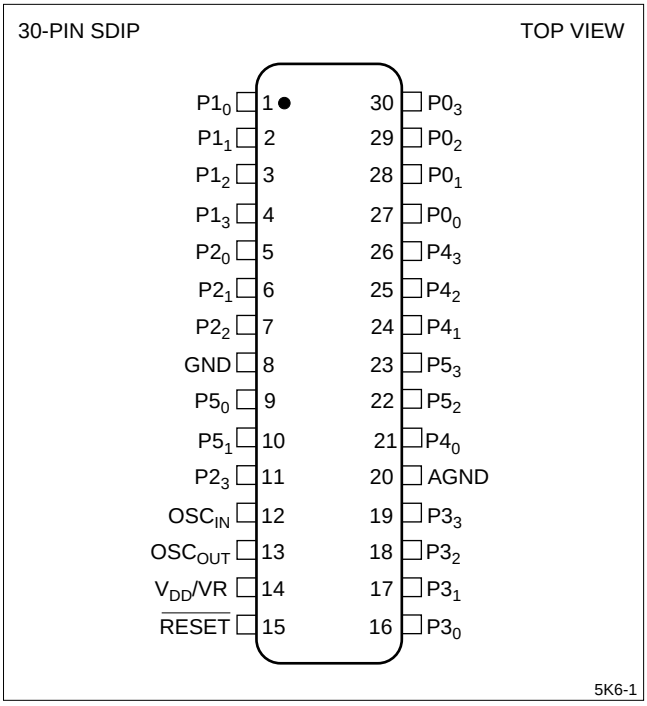
NOTES:
1. OTP microcomputer is available for SM5K6.
2. OTP microcomputer is available for SM5K6/5K7

DESCRIPTION

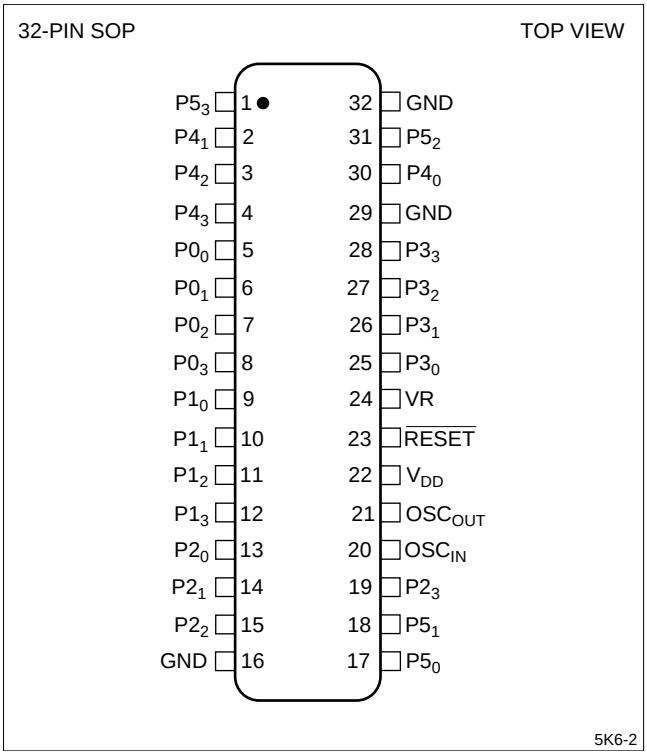
The SM5K6/5K7 are CMOS 4-bit single-chip microcomputers incorporating 4-bit parallel processing function, serial interface function, ROM, RAM 10-bit A/D converter and timer/counters. It provides five kinds of interrupts and 8 levels subroutine stack. Since its fabricated through a CMOS process, the chip requires less power and is available in a small package: best suited for low power controlling, and compact equipment like a precision charger.

The information for this document is from the Microcomputer Databook, issued in March 1997.

30-PIN SDIP PINOUT



32-PIN SOP PINOUT



36-PIN QFP PINOUT