SM3507

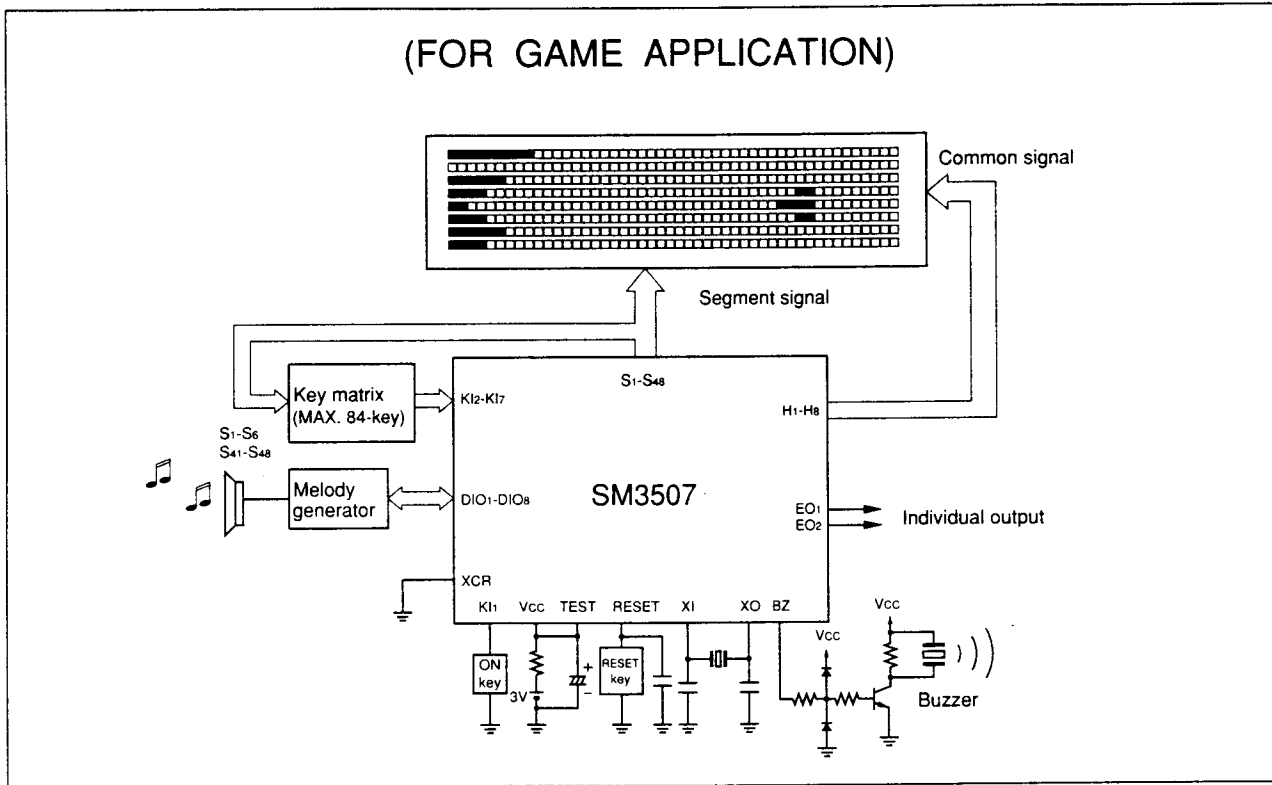## 4-Bit Single-Chip Microcomputer (For Data Bank Use)

DESCRIPTION

The SM3507 is a CMOS 4-bit single-chip micro-computer for databank incorporating data memory RAM, LCD driver, key input circuit and buzzer output circuit. By connecting an external crystal, a 1Hz timer interrupt is made possible for easier clock function.
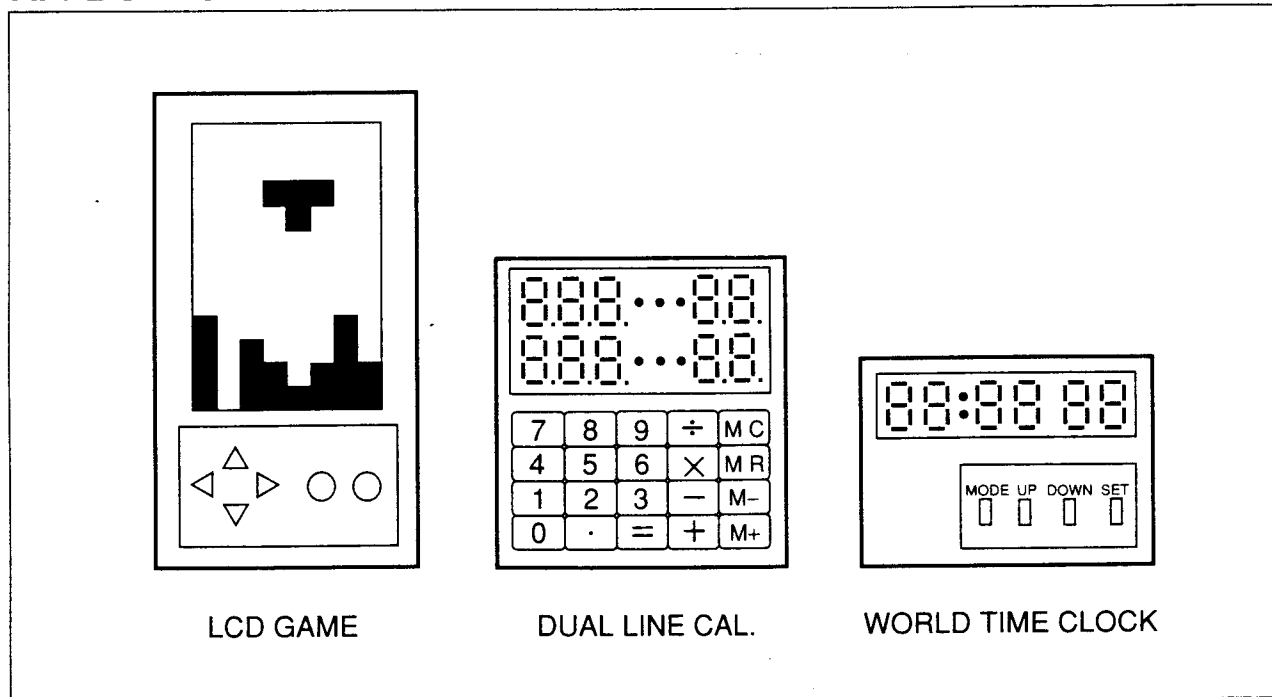
FEATURES

- ROM capacity :

  Program ROM   6 k x 23 bits

  Character ROM   4 x 8 x 128 bits

- RAM capacity :

  Working RAM   256 x 4 bits

  Display RAM   48 x 8 bits

  Data RAM   512 x 8 bits

- LCD display : 48 segment x 8 common

- I/O ports :

  Parallel I/O   8 bits

  Output   2 bits

  Buzzer output   1 bit (4 kHz)

  Key input   7 bits

- Standby release : 2 events (2 Hz signal, key input)

- Built-in oscillator :

  System clock (built-in CR oscillator) 250 kHz

  Timer (built-in CR oscillator)   32.8 kHz

  (external crystal)   32.768 kHz

- Instruction cycle time : 12 µs

- Operating temperature : −10 to +60 °C

- Supply voltage : 2.5 to 3.4 V

- Packages :

  80-pin QFP (QFP080-P-1420)

  Chip (83-pad)

SYSTEM COMFIGURATION EXAMPLE

(FOR GAME APPLICATION)

APPLICATION EXAMPLE

LCD GAME   DUAL LINE CAL.   WORLD TIME CLOCK

SM3503

4-Bit Single-Chip Microcomputer (For Data Bank Use)

DESCRIPTION

The SM3503 is a CMOS 4-bit single-chip micro-computer for databank incorporating data memory RAM, LCD driver, key input circuit and buzzer output circuit. By connecting an external crystal, a 1Hz timer interrupt is made possible for easier clock function.

FEATURES

- ROM capacity :

    Program ROM   6 k x 23 bits

    Character ROM   5 x 8 x 128 bits

- RAM capacity :

    Working RAM   256 x 4 bits

    Display RAM   60 x 8 bits

    Data RAM   1 k x 8 bits

- LCD display : 60 segment x 8 common

- I/O ports :

    Buzzer output   1 bit (4 kHz)

    Key input   7 bits

- Standby release : 2 events (2 Hz signal, key input)

- Built-in oscillator :

    System clock (built-in CR oscillator)   250 kHz

    Timer (built-in CR oscillator)   32.8 kHz

        (external crystal)   32.768 kHz

- Instruction cycle time : 12 μs

- Operating temperature : −10 to +60°C

- Supply voltage : 2.5 to 3.4 V

- Packages :

    100-pin QFP (QFP100-P-1420)

    Chip (84-pad)

Singlechip LH7xxxx '790 '789 '791 SMxxxx 'K series MCU Microcontroller MPU Microprocessor ARM Advanced RISC Machines Databank LCD Controller LCD Driver Controllers Processors Portable Low Power Low Voltage High Performance Power curve MIPS MIPS/Watt Execution Cycle Multiplier High Speed Compact Handheld System on Chip System Integration Chip Integration Integration Superchip Standard Cell Core Core based IC VHDL Verilog Synthesis Chip on Board COB Chip on Flex COF Device on Board DOB Power Supply Controller Handy Products Development Tools Board Support Software Tools Tools 2.10 Software Support Emulators Evaluation Boards ICE In-Circuit Emulators ROM ICE SME Series Programmable User Configurable RTOS Real Time Operating Systems Third Party Support Software Hardware Yokogawa Digital Cosmic Compiler C Language C Like Assembler Linker Debugger Debug A/D D/A DAC Analog Digital 10-bit 4-bit 8-bit 16-bit 32-bit Address bus Data Bus