

## FEATURES

- ROM Capacity
  - Program ROM  $12K \times 23$ -bits
  - Character ROM  $6 \times 8 \times 256$ -bits
  - Constant ROM  $1K \times 4$ -bits
- RAM capacity
  - Working RAM  $256 \times 4$ -bits
  - Display RAM  $74 \times 16$ -bits
  - Data RAM  $3K \times 8$ -bits
- Memory Expansion (External)  $1M \times 8$ -bits  $\times 3$
- LCD Display 74 Segment  $\times 16$  Common
- I/O Ports
  - Parallel I/O 8-bits
  - Input 2-bits
  - Output 2-bits
  - Buzzer Output 1-bit (4 kHz)
  - Key Input 6-bits
- Standby Release 2 Events
  - 2 Hz Signal
  - Key Input

- Built-in Oscillator
  - System Clock (Built-in CR Oscillator) 1 kHz
  - System Clock (External Crystal) 2 kHz
  - Timer (Built-in CR Oscillator) 32.8 kHz
  - Timer (External Crystal) 32.768 kHz
- Instruction Cycle Time 3  $\mu$ s
- Operating Temperature  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$
- Supply Voltage 2.5 V to 5.5 V
- 128-pin QFP Package (QFP128-P-0828) (Test Sample only)

## DESCRIPTION

The SM3508 is a CMOS 4-bit single-chip microcomputer for data bank use incorporating data memory RAM, LCD driver (the output is adjustable in 16 steps for various contrast), key/switch input circuit, 8-bit parallel I/O port, 2 output ports, and buzzer output circuit. The chip also has memory expansion controlling feature. One of two ports contains special output circuit for infrared (IR) communication. By connecting an external crystal, a 1 Hz timer interrupt is made possible for easier clock function.

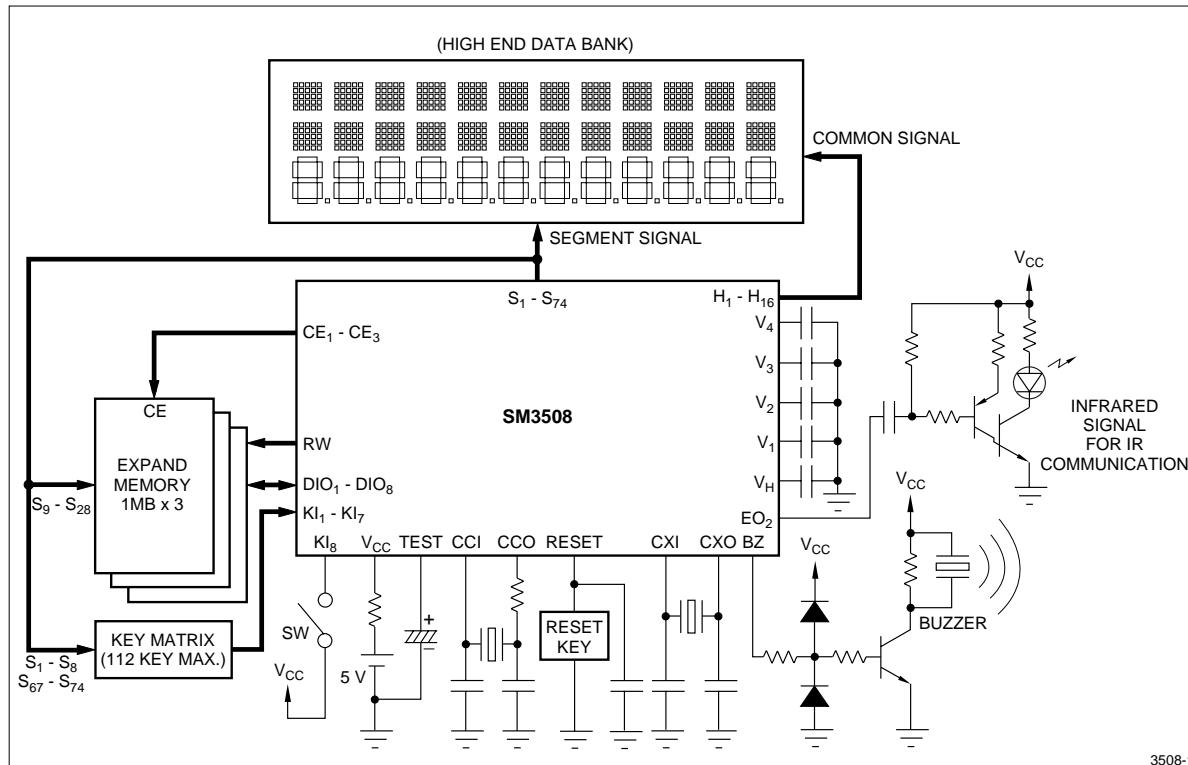


Figure 1. System Configuration Example

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