

FEATURES

- ROM Capacity
 - Program ROM 12K × 23-bits
 - Character ROM 6 × 8 × 256-bits
 - Constant ROM 1K × 4-bits
- RAM capacity
 - Working RAM 256 × 4-bits
 - Display RAM 74 × 16-bits
 - Data RAM 3K × 8-bits
- Memory Expansion (External) 1M × 8-bits × 3
- LCD Display 74 Segment × 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 μs
- Operating Temperature -10°C to +60°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.

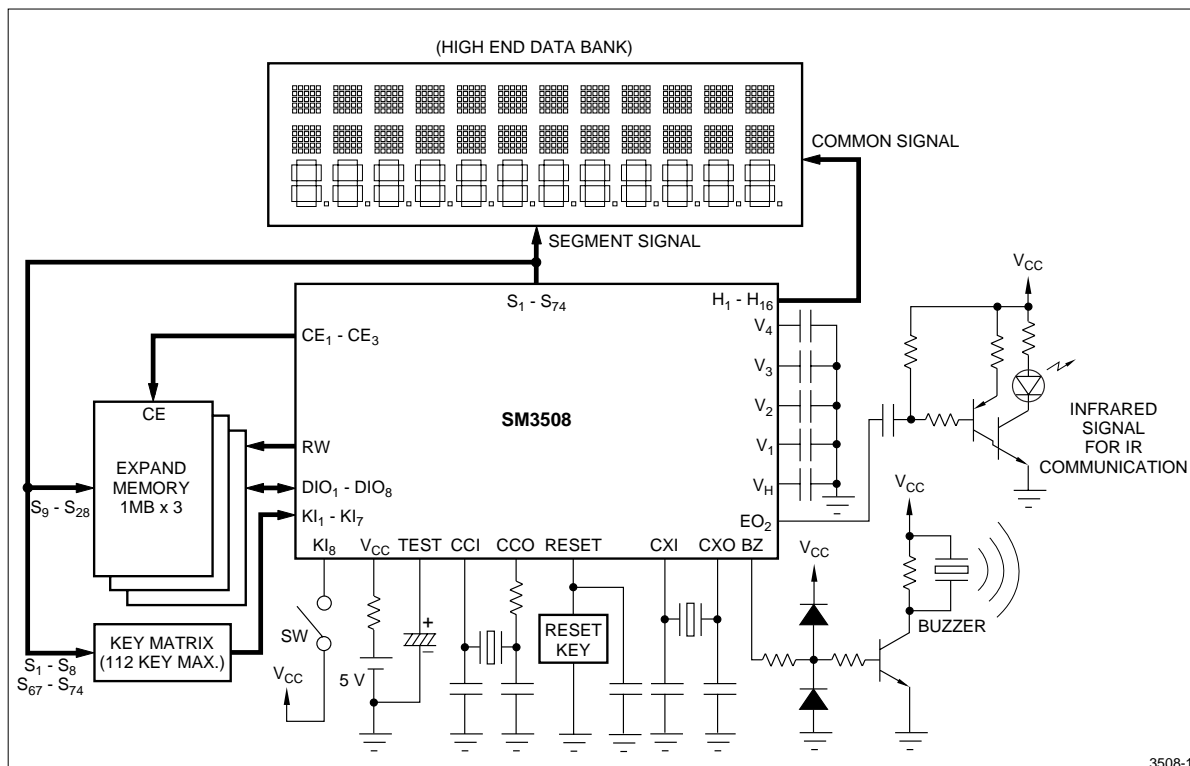


Figure 1. System Configuration Example

LIFE SUPPORT POLICY

SHARP components should not be used in medical devices with life support functions or in safety equipment (or similar applications where component failure would result in loss of life or physical harm) without the written approval of an officer of the SHARP Corporation.

LIMITED WARRANTY

SHARP warrants to its Customer that the Products will be free from defects in material and workmanship under normal use and service for a period of one year from the date of invoice. Customer's exclusive remedy for breach of this warranty is that SHARP will either (i) repair or replace, at its option, any Product which fails during the warranty period because of such defect (if Customer promptly reported the failure to SHARP in writing) or, (ii) if SHARP is unable to repair or replace, refund the purchase price of the Product upon its return to SHARP. This warranty does not apply to any Product which has been subjected to misuse, abnormal service or handling, or which has been altered or modified in design or construction, or which has been serviced or repaired by anyone other than Sharp. The warranties set forth herein are in lieu of, and exclusive of, all other warranties, express or implied. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE AND FITNESS FOR A PARTICULAR PURPOSE, ARE SPECIFICALLY EXCLUDED. In no event will Sharp be liable, or in any way responsible, for any incidental or consequential economic or property damage.

The above warranty is also extended to Customers of Sharp authorized distributors with the following exception: reports of failures of Products during the warranty period and return of Products that were purchased from an authorized distributor must be made through the distributor. In case Sharp is unable to repair or replace such Products, refunds will be issued to the distributor in the amount of distributor cost.

SHARP reserves the right to make changes in specifications at any time and without notice. SHARP does not assume any responsibility for the use of any circuitry described; no circuit patent licenses are implied.

SHARP[®]**NORTH AMERICA**

SHARP Microelectronics
of the Americas
5700 NW Pacific Rim Blvd., M/S 20
Camas, WA 98607, U.S.A.
Phone: (360) 834-2500
Telex: 49608472 (SHARPCAM)
Facsimile: (360) 834-8903
<http://www.sharpsma.com>

EUROPE

SHARP Electronics (Europe) GmbH
Microelectronics Division
SonninstraÙe 3
20097 Hamburg, Germany
Phone: (49) 40 2376-2286
Telex: 2161867 (HEEG D)
Facsimile: (49) 40 2376-2232

ASIA

SHARP Corporation
Integrated Circuits Group
2613-1 Ichinomoto-Cho
Tenri-City, Nara, 632, Japan
Phone: (07436) 5-1321
Telex: LABOMETA-B J63428
Facsimile: (07436) 5-1532