

# HMS88T1608L/16L

## 8-BIT CMOS MCU BASED SAFEGUARDED SMARTCARD IC WITH 8176/16384 BYTES EEPROM

### FEATURES

- Extended voltage Operation
  - $V_{CC}$  Range: 2.7V ~ 5.5V
- 8 Bit Architecture CPU
- 16K Bytes User ROM, Sector Combinative
- 2.7K Bytes System ROM
- 384 Bytes RAM
- 8176/16384 Bytes EEPROM, Sector Combinative:
  - Highly Reliable CMOS EEPROM Technology
  - 10 Years Data Retention
  - 300,000 Erase/Write Cycles Endurance
  - Protected One Time Programmable Block (32 or 64 Bytes)
  - 1 to 32 Bytes Block Erase or Write in a Single Cycle Programming
- Serial Access, ISO 7816-3 Compatible
- Standby Mode for Power Saving
- Up to 5 MHz Internal Operating Frequency
- Very High Security Features Including EEPROM flash erase
- Contact Assignment Compatible ISO7816-2
- ESD Protection Greater than 5,000V
- 2 Operating Configurations
  - Issuer
  - User
- Meets GSM 11.11 and 11.12 Specifications

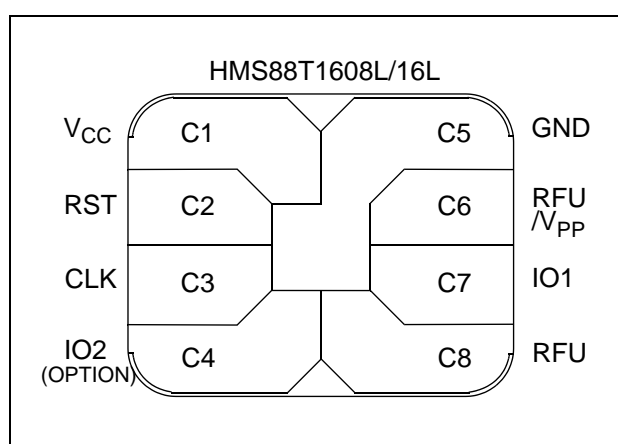


Figure 1. Pin Configuration

$V_{CC}$	Supply Voltage
RST	Reset
CLK	Clock
RFU	Reserved for future
GND	Ground
I/O1	Data Input/Output
I/O2	Data Input/Output(Optional)

Table 2. Contact Format

## INTRODUCTION

The HMS88T1608L/16L, a member of the standard HMS88T16XYZ family, are a serial access microcontrollers especially designed for very large volume and cost competitive smart cards applications.

The HMS88T1608L/16L are based on an 8 bit CPU core and include on chip memories: 384 bytes RAM, 16K bytes ROM, 8176/16384 bytes EEPROM structured in two main sectors to be used in different combinations, as described below.

Reliability data related to the HMS88T1608L/16L products manufactured using Hynix 0.7 $\mu$ m CMOS EEPROM technology guarantees data retention up to 10 years and endurance up to 300,000 erase/write cycles.

As all the other HMS88T16XYZ family members, the HMS88T1608L/16L are fully compatible with the ISO standards for smart card applications.

The HMS88T1608L/16L can be delivered as: either in sawn or un-sawn 6inch wafers, 180 micron thickness as well as in micromodule package.

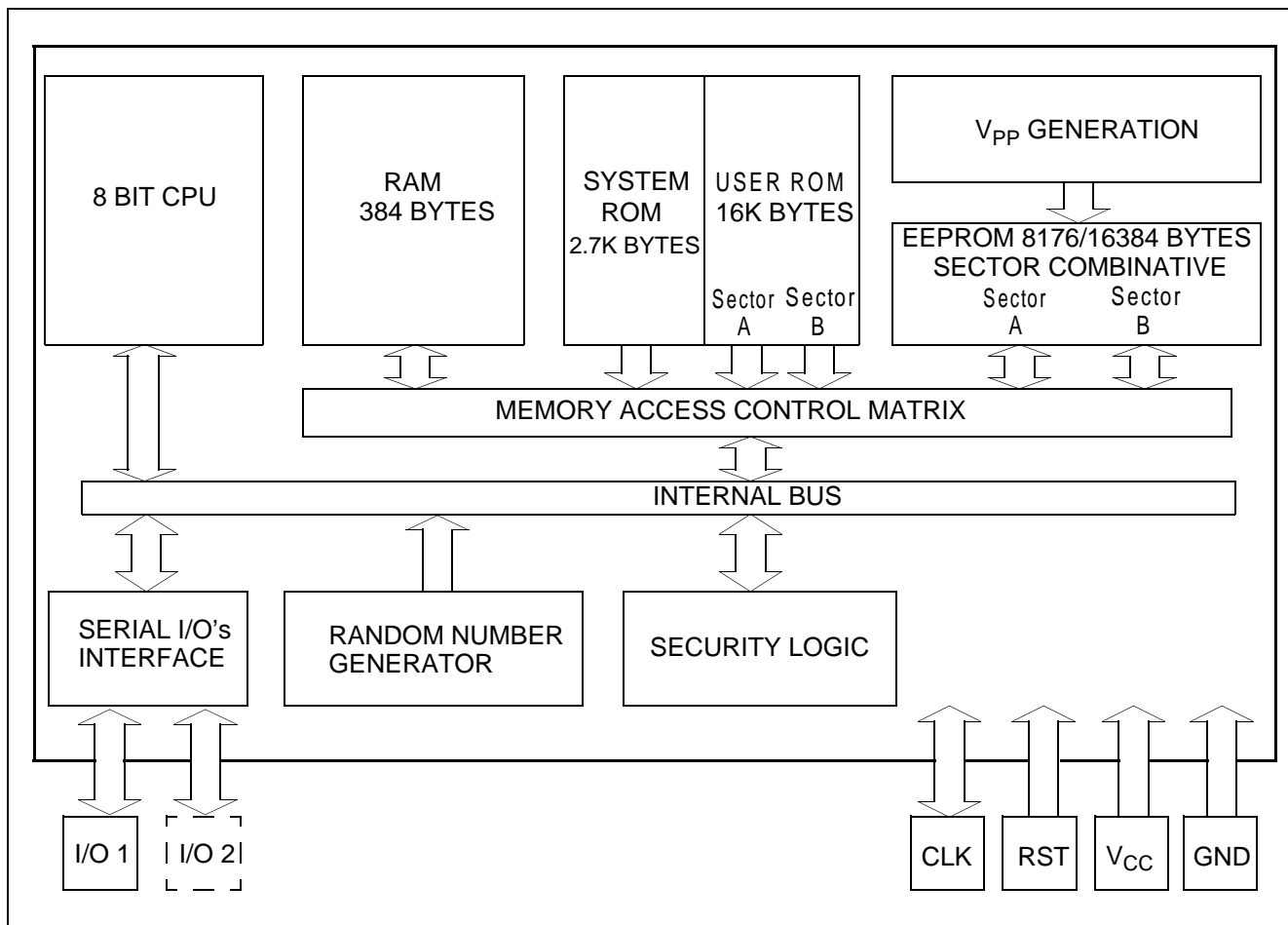


Figure 3. HMS88T1608L/16L Block Diagram