

# **NM93CS06/CS46/CS56/CS66** **(MICROWIRE™ Bus Interface) 256-/1024-/2048-/4096-Bit** **Serial EEPROM with Data Protect and Sequential Read**

## **General Description**

The NM93CS06/CS46/CS56/CS66 devices are 256/1024/2048/4096 bits, respectively, of CMOS non-volatile electrically erasable memory divided into 16/64/128/256 16-bit registers. Selected registers can be protected against data modification by programming the Protect Register with the address of the first register to be protected against data modification (all registers greater than, or equal to, the selected address are then protected from further change). Additionally, this address can be "locked" into the device, making all future attempts to change data impossible. These devices are fabricated using National Semiconductor floating-gate CMOS process for high reliability, high endurance and low power consumption. The NM93CSXX Family is offered in both SO and TSSOP packages for small space considerations.

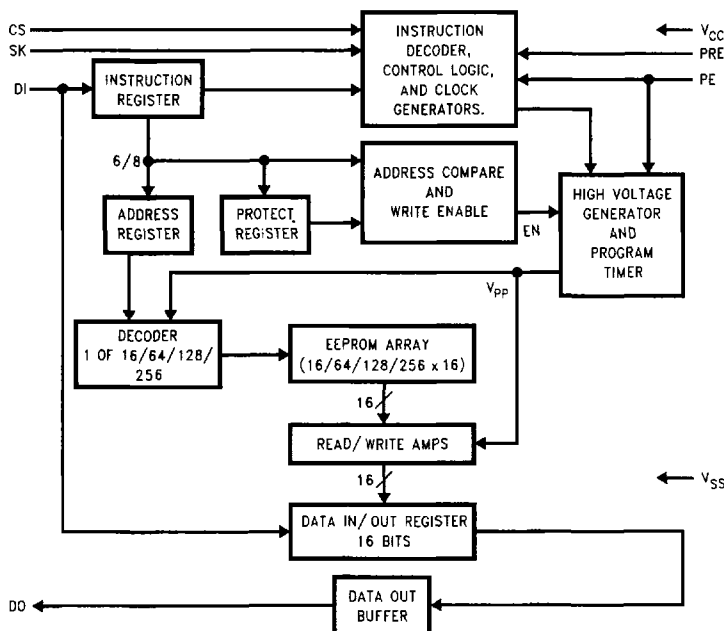
The EEPROM interfacing is MICROWIRE compatible providing simple interfacing to standard microcontrollers and microprocessors. There are a total of 10 instructions, 5 which operate on the EEPROM memory, and 5 which operate on the Protect Register. The memory instructions are

READ, WRITE, WRITE ALL, WRITE ENABLE, and WRITE DISABLE. The Protect register instructions are PRREAD, PRWRITE, PRENABLE, PRCLEAR, and PRDISABLE.

## **Features**

- Write protection in a user defined section of memory
- Sequential register read
- Typical active current of 200  $\mu$ A and standby current of 10  $\mu$ A
- No erase required before write
- Reliable CMOS floating gate technology
- MICROWIRE compatible serial I/O
- Self timed write cycle
- Device status during programming mode
- 40 year data retention
- Endurance:  $10^6$  data changes
- 4.5V to 5.5V operation in all modes of operation
- Packages available: 8-pin SO, 8-pin DIP, 8-pin TSSOP

## **Block Diagram**



TL/D/10750-1