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AMENDENT HISTORY

Version	Date	Description
Ver 1.0	March 11, 2003	V1.0 first issue
Ver 1.1	April 18, 2003	Modify the pin assignment table Add bonding pad information & application circuit
Ver 1.2	April 21, 2003	Modify application circuit & bonding pad information
Ver 1.3	August 29, 2003	Modify operation current from typ.4mA -> MAX. 4mA Modify access time Max = 200ns in Electrical Characteristic

1. INTRODUCTION

The SNR008 is a signal power, 8M-bit, read only memory. It is organized as 1M bytes, operates for single 3V power supply, support static standby mode. The SNR008 embedded two different interfaces, one is a standard 8-bit interface bus which compatible with SNL310, another one is a special 8-bit AD (address/data) bus which compatible with SNC710.

SNR008 offers automatic power-down, with power-down controlled by the chip enable "CE\". When chip enable goes to high, SNR008 will entry power-down mode in order to save the power consumption.

2. FEATURES

- Power supply: 2.4V ~ 3.6V
- Memory Size: 8M-bit
- Totally static operation
- Embedded a standard 8-bit bus interface compatible with SNL310 or a 8-bit AD (address/data) bus interface compatible with SNC710
- Access time: 200ns @3V

3. PIN ASSIGNMENTS

Symbol	I/O	Standard ROM interface	AD Bus interface
TYPE	I	1: Standard ROM type	0: AD Bus interface
A[8..19]	I	Standard ROM Address [8..19]	NC
A[7]	I	Standard ROM Address A7	TESTM
A[6]	I	Standard ROM Address A6	Bank Select 4
A[5]	I	Standard ROM Address A5	Bank Select 3
A[4]	I	Standard ROM Address A4	Bank Select 2
A[3]	I	Standard ROM Address A3	Bank Select 1
A[2]	I	Standard ROM Address A2	Bank Select 0
A[1]	I	Standard ROM Address A1	ALECLK
A[0]	I	Standard ROM Address A0	READY
D[0..7]	I/O	Standard ROM Data [0..7]	Address/Data bus [0..7]
CEB	I	Standard ROM Chip Enable	Chip Enable
OEB	I	Standard ROM Output Enable	NC
VDD	P	3.3volt Positive Power supply	3.3volt Positive Power supply
GND	P	Ground	Ground

4. Memory mapping for AD Bus Interface

For 8-bit AD (address/data) bus interface, all the address and data communication between SNC710 and SNR008 are through data bus D[0..7]. SNC710 allows user to connect maximum 2 external mask ROM, and SNR008 has 5 bank select pins (BS0~BS4) to specify the memory region of each mask ROM.

BS4~BS0	Address Region	BS4~BS0	Address Region
00100	0x0200000 ~ 0x027FFFF	10010	0x0900000 ~ 0x097FFFF
00101	0x0280000 ~ 0x02FFFFF	10011	0x0980000 ~ 0x09FFFFF
00110	0x0300000 ~ 0x037FFFF	10100	0x0A00000 ~ 0x0A7FFFF
00111	0x0380000 ~ 0x03FFFFF	10101	0x0A80000 ~ 0x0AFFFFF
01000	0x0400000 ~ 0x047FFFF	10110	0x0B00000 ~ 0x0B7FFFF
01001	0x0480000 ~ 0x04FFFFF	10111	0x0B80000 ~ 0x0BFFFFF
01010	0x0500000 ~ 0x057FFFF	11000	0x0C00000 ~ 0x0C7FFFF
01011	0x0580000 ~ 0x05FFFFF	11001	0x0C80000 ~ 0x0CFFFFF
01100	0x0600000 ~ 0x067FFFF	11010	0x0D00000 ~ 0x0D7FFFF
01101	0x0680000 ~ 0x06FFFFF	11011	0x0D80000 ~ 0x0DFFFFF
01110	0x0700000 ~ 0x077FFFF	11100	0x0E00000 ~ 0x0E7FFFF
01111	0x0780000 ~ 0x07FFFFF	11101	0x0E80000 ~ 0x0EFFFFF
10000	0x0800000 ~ 0x087FFFF	11110	0x0F00000 ~ 0x0F7FFFF
10001	0x0880000 ~ 0x08FFFFF	11111	0x0F80000 ~ 0x0FFFFFF

Table-1

Note: For the address region 0x00000~0x01FFFFF are reserved, and the setting of bank select pins BS4~BS0 CAN'T be the range 0000~0x0011.

5. ABSOLUTE MAXIMUM RATINGS

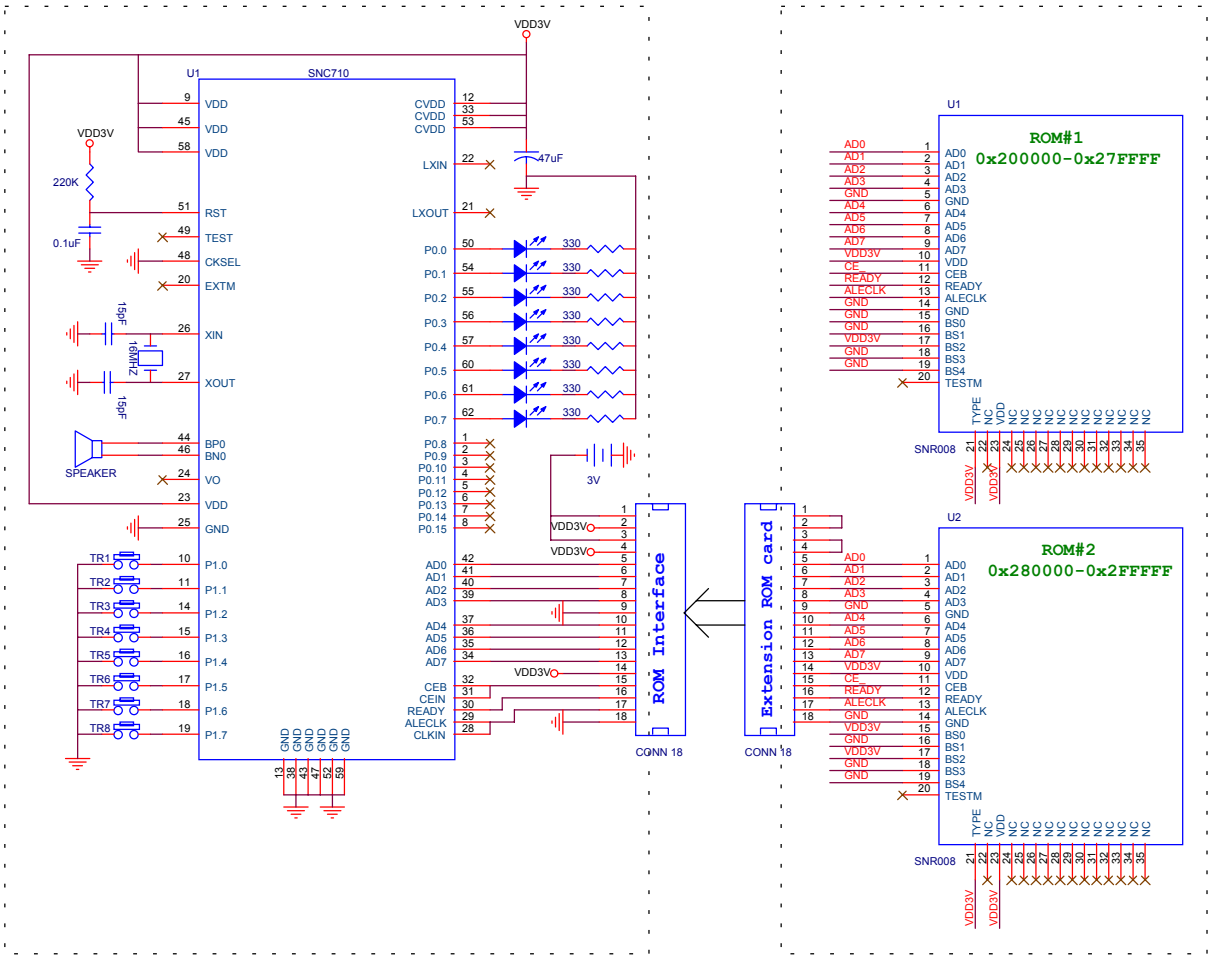
Items	Symbol	Min	Max	Unit.
Supply Voltage	V_{DD}-V	-0.3	6.0	V
Input Voltage	V_{IN}	GND-0.3	V_{DD}+0.3	V
Operating Temperature	T_{OP}	0	55	°C
Storage Temperature	T_{STG}	-55.0	125.0	°C

6. ELECTRICAL CHARACTERISTICS

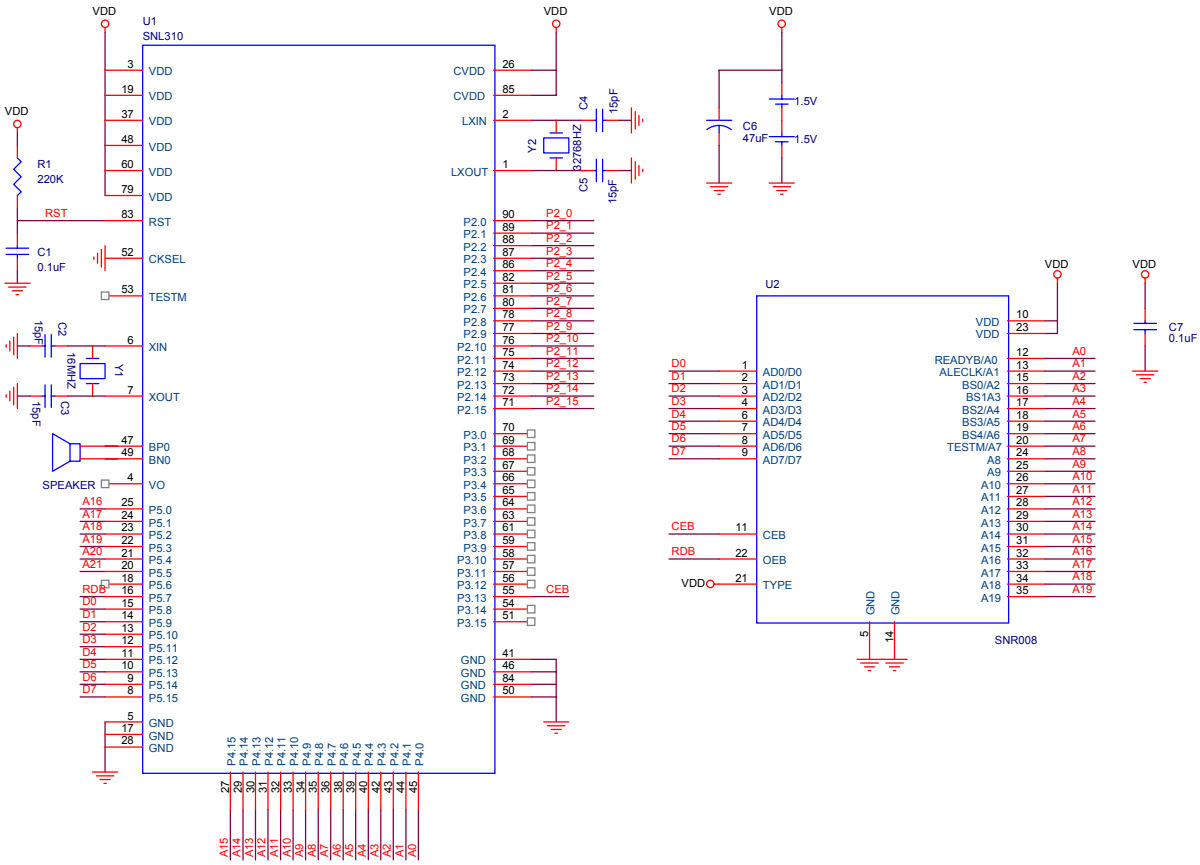
Item	Sym.	Min.	Typ.	Max.	Unit	Condition
Operating Voltage	V_{DD}	2.4	-	3.6	V	
Standby current	I_{SBY}	-	1.5	2.0	uA	V_{DD}=3V, no load
Operating Current	I_{OPR}	-	4	-	mA	V_{DD}=3V, no load
Address access time	tAA	-	-	200	ns	Vdd=3V

7. Application circuit

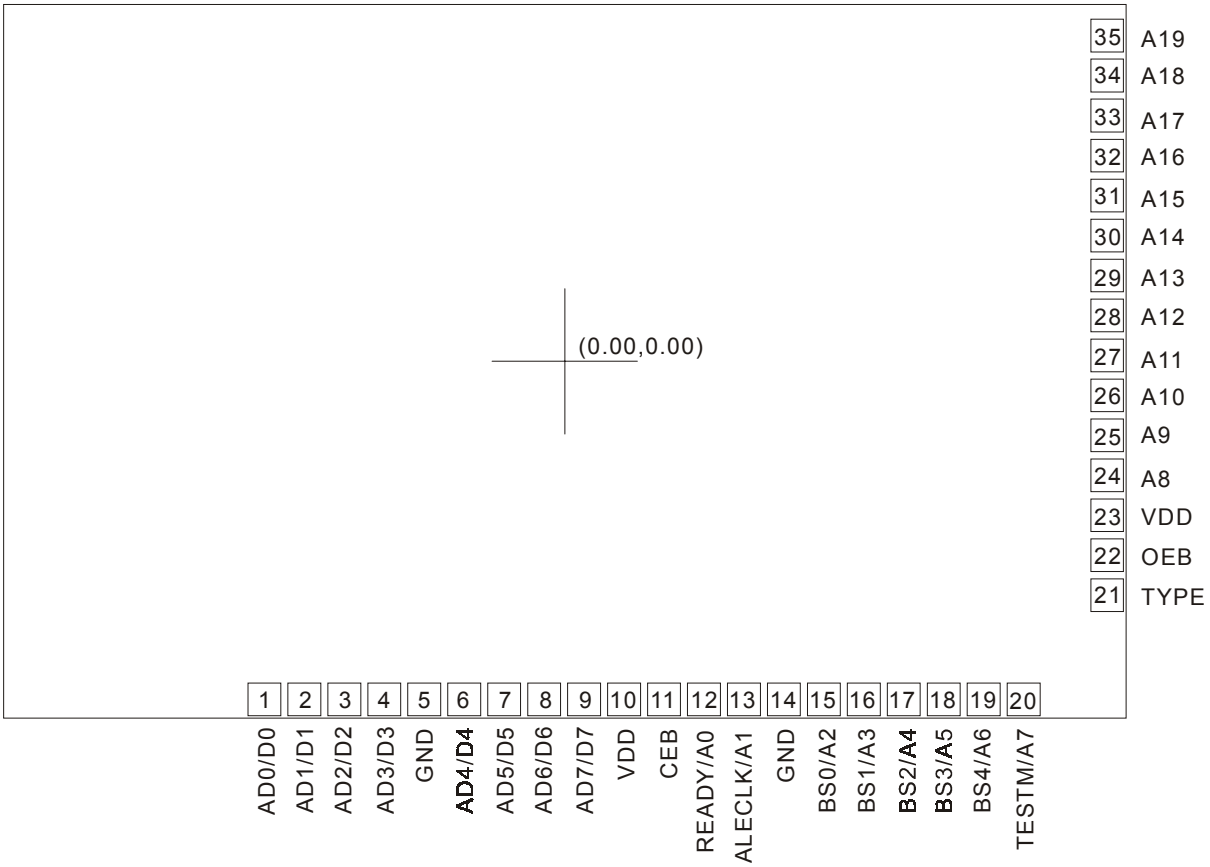
7.1 AD Bus Interface (with SNC710)



7.2 Standard ROM interface (with SNL310)



8. BONDING PAD



Note: The substrate MUST be connected to Vss in PCB layout.

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