SMOS SYSTEMS

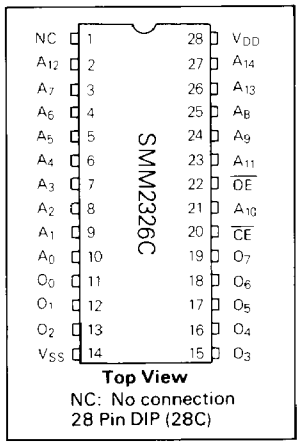
256K BIT CMOS MASK ROM

SMM2326

GENERAL DESCRIPTION

The SMM2326 is a 32,768 words × 8 bits synchronous, mask programmable ROM on a monolithic CMOS chip and is characterized by fast access time and very low power dissipation. Both the inputs and outputs are TTL compatible. It has address latch and three-state output.

PIN ASSIGNMENT DIAGRAM

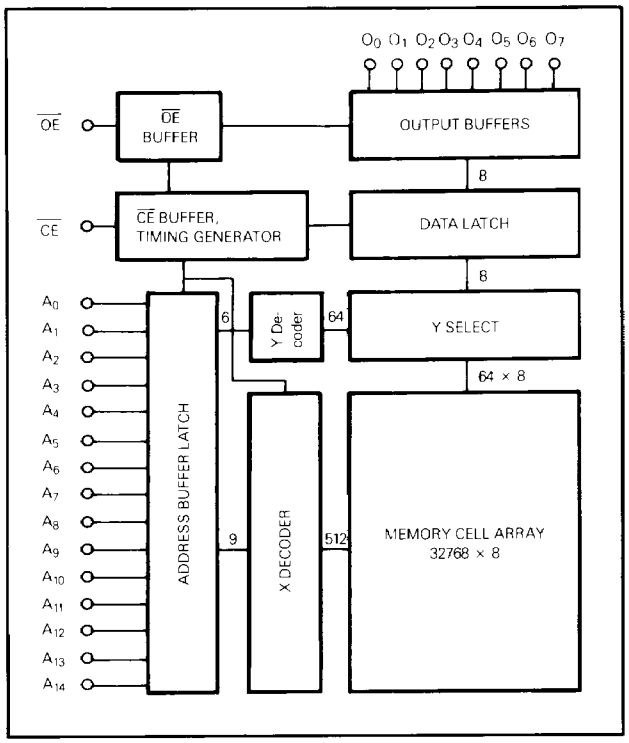


Top View
NC: No connection
28 Pin DIP (28C)

PIN DESCRIPTION

$A_0 - A_{14}$	Address input
$\overline{CE}$	Chip enable
$\overline{OE}$	Output enable
$O_0 - O_7$	Data output
V_{DD}	Power supply (+5V)
V_{SS}	Power supply (0V)

BLOCK DIAGRAM

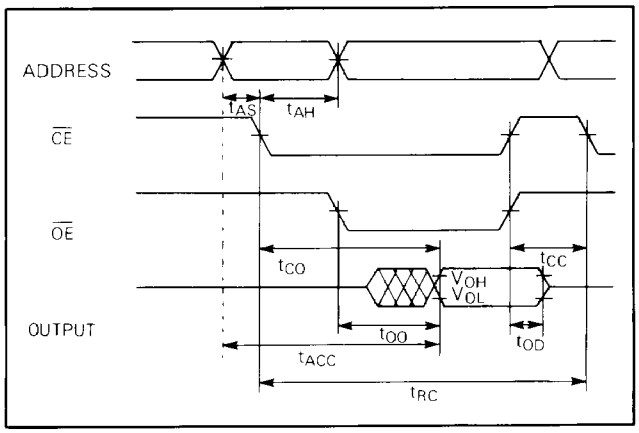


FEATURES

Access time	450ns	850ns
Low power supply current		
Standby:	1 μA Typ.	1 μA Typ.
	40 μA Max.	40 μA Max.
Operating:	5 mA Typ.	4 mA Typ.
	10 mA Max.	8 mA Max.
Synchronous	Address latch	
Single power supply	5V ± 10%	

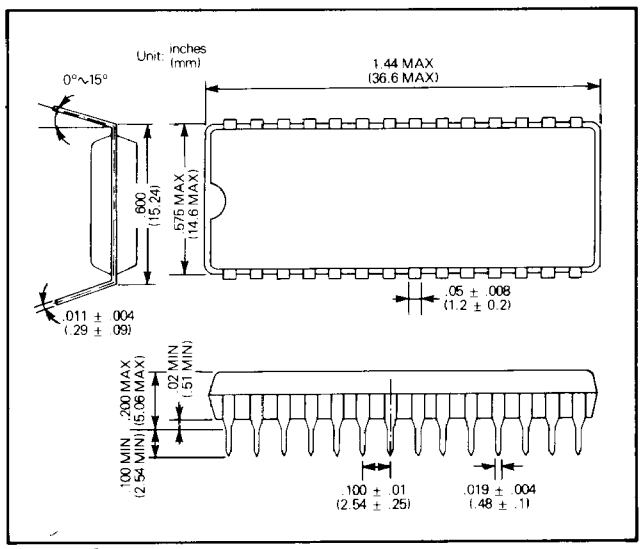
TTL compatible all inputs/outputs
Three-state output
Pin compatible with Intel EPROM 2764
Standard packages available: Plastic Flat Package, Cerdip and Plastic DIP

TIMING CHART



PACKAGE DIMENSIONS

28 Pin Plastic DIP



TRUTH TABLE (X: H or L)

$\overline{CE}$	$A_0 - A_{14}$	$\overline{OE}$	$O_0 - O_7$	Mode
H	X	X	High impedance	Standby
⌐	Stable	X	High impedance	Address latch
L	X	H	High impedance	Output disable
L	X	L	Data output	Read

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
V_{DD}	Supply voltage	−0.3 to 7.0	V
V_{IN}	Input voltage	−0.3 to V_{DD} + 0.3	V
V_{OUT}	Output voltage	−0.3 to V_{DD} + 0.3	V
P_D	Power dissipation	1.0	W
T_{SOLDER}	Soldering temperature and time	260°C, 10 sec	–
T_{STE}	Storage temperature	−55 to 125	°C
T_{OPR}	Operating temperature	−10 to 70	°C
I_{OUT}	DC output current	10	mA

DC ELECTRICAL CHARACTERISTICS (V_{DD} = 5V ± 10%, Ta = −10°C to 70°C)

Symbol	Parameter	Conditions	Min	Max.	Unit
V_{IH}	High level input voltage	——	2.2	V_{DD} + 0.3	V
V_{IL}	Low level input voltage	——	−0.3	0.8	V
I_{IN}	Input leakage current	$0 \leqq V_{IN} \leqq V_{DD}$	−1.0	1.0	μA
I_{DDS}	Standby supply current	$\overline{CE} = V_{DD} - 0.2$ $V_{IN} = 0.2$ or $V_{DD} - 0.2$	——	40	μA
I_{DDO}	Operation supply current	with output open	——	8, 10*	mA
I_{LO}	Output leakage current	$0 \leqq V_{OUT} \leqq V_{DD}$	−1.0	1.0	μA
V_{OH}	High level output voltage	$I_{OH} = -1.0$ mA	2.4	——	V
V_{OL}	Low level output voltage	$I_{OL} = 2.0$ mA	——	0.4	V
C_I	Input terminal capacitance	f = 1 MHz	——	7	pF
C_O	Output terminal capacitance	f = 1 MHz	——	10	pF

* at access time 450 ns

AC ELECTRICAL CHARACTERISTICS (V_{DD} = 5V ± 10%, Ta = −10°C to 70°C)

Symbol	Parameter	Conditions	Access time 450 ns Min.	Access time 450 ns Max.	Access time 850 ns Min.	Access time 850 ns Max.	Unit
t_{RC}	Read cycle time	C_L = 100 pF + 1 TTL V_{IH} = 2.2V V_{IL} = 0.8V V_{OH} = 2.2V V_{OL} = 0.8V tr = tf = 10 ns	700	–	1150	–	ns
t_{CC}	$\overline{CE}$ off time		250	–	300	–	ns
t_{AS}	Address setup time		0	–	0	–	ns
t_{AH}	Address hold time		150	–	150	–	ns
t_{ACC}	Address access time		–	450	–	850	ns
t_{CO}	$\overline{CE}$ access time		–	450	–	850	ns
t_{OD}	Output off time		–	150	–	150	ns
t_{DO}	Output delay time from $\overline{OE}$		–	150	–	150	ns

NOMENCLATURE

S — S MOS SYSTEMS

MM — Mask ROM

2326 — Code No.

C — Package Code
C: Plastic DIP
H: Cerdip
F: Plastic Flat Package

BG — Customer Code represents: Access Time ROM DATA

X X 9629

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