

SMM2365C

CMOS 64K-BIT MASK ROM

- Low Supply Current
- Access Time 350ns/450ns
- 8,192 Words × 8 Bits Asynchronous

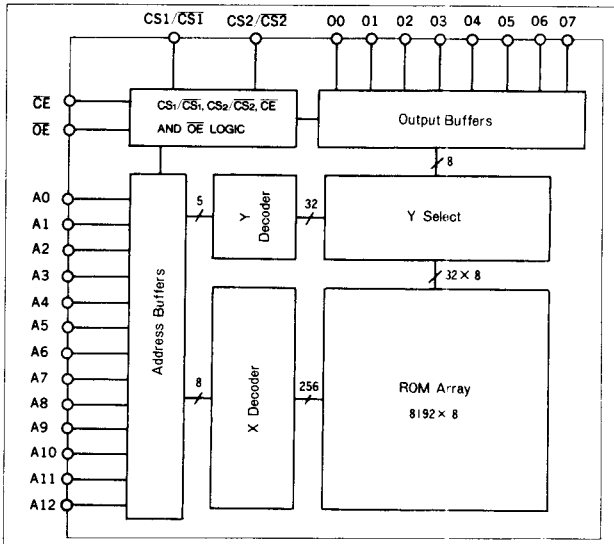
DESCRIPTION

The SMM2365C is an 8,192 words × 8 bits asynchronous, static, mask programmable ROM on a monolithic CMOS chip and is characterized by fast access time and very low power dissipation. The nature "static" of the memory eliminates the need of an external clock. Both the input and output are TTL compatible. The 3-state output and mask programmable chip select allow for easy system design and easy expansion of the memory capacity. These features make the SMM2365C usable for a widerange of applications, especially as a memory for low power dissipation devices using microprocessors.

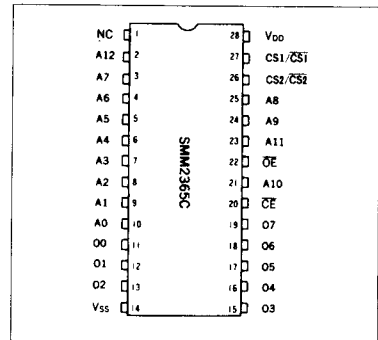
FEATURES

- Access time350/450ns
- Low supply currentstandby: 0.1 μ A Typ
operation: 15mA/12mA
- Completely static
- Single power supply5 V \pm 10%
- TTL compatible inputs and outputs
- 3-state output with wired-OR capability
- Package28-pin DIP (plastic)

BLOCK DIAGRAM



PIN CONFIGURATION



PIN DESCRIPTION

A0 to A12	Address Input
OE	Output Enable
CE	Chip Enable
CS1/CS1, CS2/CS2	Chip Select
00 to 07	Data Output
VDD	Power Supply (+5V)
VSS	Power Supply (0V)
NC	No Connection

■ ABSOLUTE MAXIMUM RATINGS

(V_{SS}=0V)

Parameter	Symbol	Ratings	Unit
Supply voltage	V _{DD}	-0.3 to 7.0	V
Input voltage	V _I	-0.3 to V _{DD} +0.3	V
Output voltage	V _O	-0.3 to V _{DD} +0.3	V
Power dissipation	P _D	1.0	W
DC output current	I _O	10	mA
Operating temperature	T _{opr}	-10 to 70	°C
Storage temperature	T _{stg}	-65 to 150	°C
Soldering temperature and time	T _{sol}	260°C, 10 s (at lead)	—

■ ELECTRICAL CHARACTERISTICS

● DC Characteristics

(V_{DD}=+5V±10%, V_{SS}=0V, T_a=-10 to +70°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
High level input voltage	V _{IH}		2.2	—	V _{DD} +0.3	V
Low level input voltage	V _{IL}		-0.3	—	0.8	V
Input leakage current	I _{LI}	0 ≤ V _I ≤ V _{DD}	-1.0	—	1.0	μA
Standby supply current	I _{DDS}	CE = V _{DD} -0.2	—	0.1	40	μA
Operating supply current	I _{DDO}	with output open	—	15*/12	40*/30	mA
Output leakage current	I _{LO}	0 ≤ V _O ≤ V _{DD}	-1.0	—	1.0	μA
High level output voltage	V _{OH}	I _{OH} = -1.0mA	2.4	—	—	V
Low level output voltage	V _{OL}	I _{OL} = 2.0mA	—	—	0.4	V
Input capacitance	C _I	f = 1 MHz	—	—	7	pF
Output capacitance	C _O	f = 1 MHz	—	—	10	pF

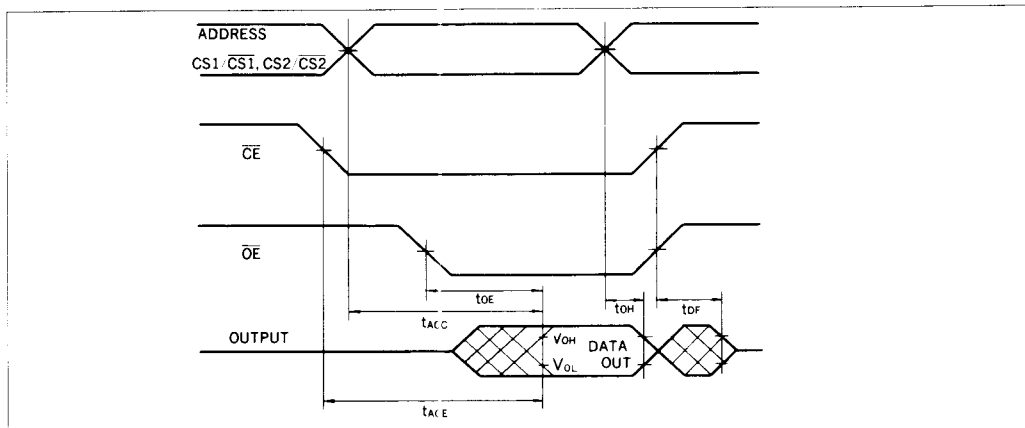
* at access time 350 ns

● AC Characteristics

(V_{DD}=5V±10%, V_{SS}=0V, T_a=-10 to +70°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Address access time	t _{ACC}	C _L =1 TTL+100 pF V _{IH} =2.2V, V _{IL} =0.8V V _{OH} =2.2V, V _{OL} =0.8V tr=tf=10 ns	—	—	350/450	ns
CE access time	t _{ACE}		—	—	350/450	ns
OE access time	t _{OE}		—	—	150	ns
Output floating	t _{DF}		—	—	150	ns
Output hold time	t _{OH}		0	—	—	ns

● Timing Chart



FUNCTIONS

Truth Table

\overline{CE}	$CS1/\overline{CS1}$, $CS2/\overline{CS2}$, A0 to A12	\overline{OE}	O0 to O7	MODE
H	X	X	Hi-Z	Standby
L	Stable	H	Hi-Z	Output disable
L	Stable	L	Output data	Read

X: "H" or "L"

Read mode

Data can be read by simply setting an address with \overline{CE} held at "L", \overline{OE} at "L", $CS1/\overline{CS1}$, $CS2/\overline{CS2}$ at each active level.

Standby mode

Setting \overline{CE} at "H" initiates the standby mode. In this mode, the output impedance goes high and all chip select and address inputs are disabled. Within the chip, no circuit allows current flow and only the leakage current exists.

Output disable

When \overline{OE} is set at "H", the output impedance goes high.

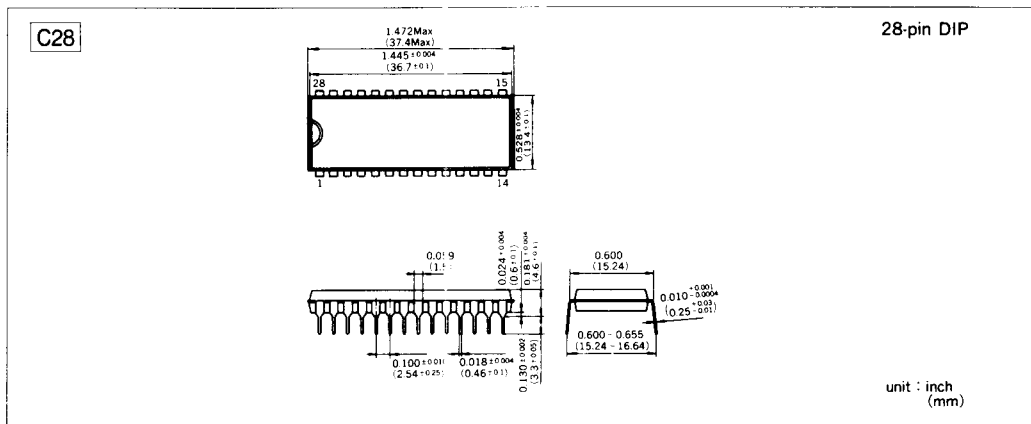
Specifying $CS1/\overline{CS1}$, $CS2/\overline{CS2}$

$CS1/\overline{CS1}$, $CS2/\overline{CS2}$ is mask programmable and may be selected for either active level. When ordering, specify the active level of $CS1/\overline{CS1}$, $CS2/\overline{CS2}$.

NOTE RECOMMENDATIONS

- The SMM2365C is a mask programmable ROM on a CMOS chip. In the data read mode, transient current will flow in the chip at the time of transistor transition. For protection of such transients, it is recommended to connect a high-frequency capacitor and an electrolytic capacitor between the power supplies V_{DD} and V_{SS} .
- The input and output of the SMM2365C are TTL compatible. It is recommended that, when the chip is connected to TTL, pull-up resistors be connected to the \overline{CE} , \overline{OE} , chip select and address input terminal.

PACKAGE DIMENSIONS



CHARACTERISTICS CURVES

