M5M2365-XXXP

65536-BIT (8192-WORD BY 8-BIT) MASK-PROGRAMMABLE ROM

DESCRIPTION

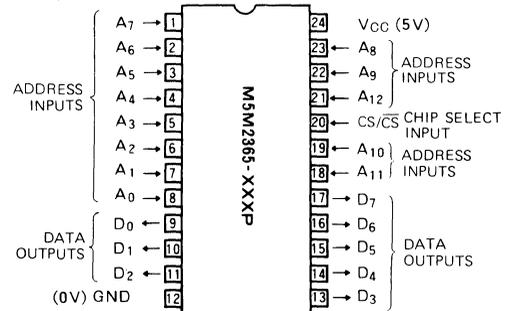The Mitsubishi M5M2365-XXXP is a 65536-bit mask programmable high speed read-only memory.

The M5M2365-XXXP is fabricated by N-channel polysilicon gate technology and available in a 24-pin DIL package. It is pin-compatible with the M5L2716K and M5L2732K in read mode.

The XXX in type code is a three-digit decimal number assigned by Mitsubishi to identify the customer's specification to which the ROM has been programmed.
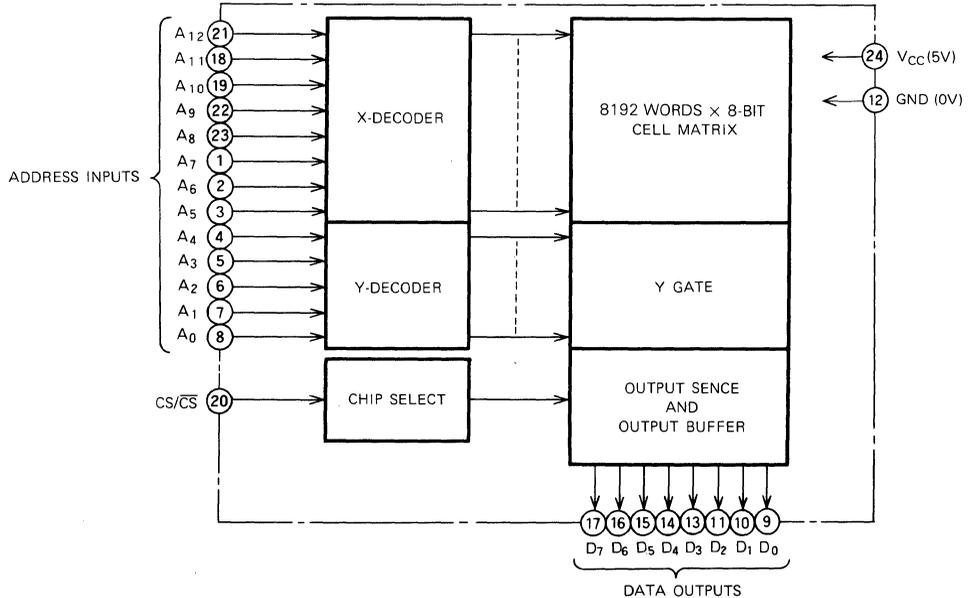
FEATURES

- 8192 word x 8-bit organization
- Access time .... 250ns (max)
- Output control selection (CS/$\overline{CS}$)
- Low power supply current (I_{CC}) .... 60mA (max)
- Single 5V power supply
- 3-state outputs for wire-OR expansion
- Input and output TTL-compatible
- Standard 24 pin DIL package
- Pin compatible with 2716, 2732 EPROMs and MK36000 MASK ROM

PIN CONFIGURATION (TOP VIEW)

ADDRESS INPUTS		
A_7 → 1	24	V_{CC} (5V)
A_6 → 2	23 ←	A_8 ADDRESS INPUTS
A_5 → 3	22 ←	A_9
A_4 → 4	21 ←	A_{12}
A_3 → 5	20 ←	CS/$\overline{CS}$ CHIP SELECT INPUT
A_2 → 6	19 ←	A_{10} ADDRESS INPUTS
A_1 → 7	18 ←	A_{11}
A_0 → 8	17 →	D_7
D_0 ← 9	16 →	D_6
D_1 ← 10	15 →	D_5
D_2 ← 11	14 →	D_4
(0V) GND 12	13 →	D_3

M5M2365-XXXP

Outline 24P4

BLOCK DIAGRAM

MITSUBISHI ELECTRIC

65536-BIT (8192-WORD BY 8-BIT) MASK-PROGRAMMABLE ROM

ABSOLUTE MAXIMUM RATINGS*

Temperature under bias . . . . $-10°C \sim +80°C$
Storage temperature . . . . $-65°C \sim +150°C$
All input or output voltage** . . . . $-0.6V \sim +7V$

COMMENT

* Stresses above those listed may cause permanent damage to the device.
  This is a stress rating only and functional operation of the device at these or at
  any other conditions above those indicated in the operational sections of this
  specification is not implied.
  Exposure to absolute maximum rating conditions for extended periods affects
 device reliability.
** With respect to Ground.

D.C. ELECTRICAL CHARACTERISTICS ($T_a = 0 \sim 70°C$, $V_{CC} = 5V \pm 10\%$, unless otherwise noted)

Symbol	Parameter	Conditions	Limits			Unit
			Min	Typ	Max	
I_{LI}	Input leakage current	$V_{IN} = 5.5V$	-10		10	μA
I_{LO}	Output leakage current	$V_{out} = 5.5V$	-10		10	μA
I_{CC}	V_{CC} current	$CS/\overline{CS} = H/L$			60	mA
V_{IL}	Input low voltage		-0.1		0.8	V
V_{IH}	Input high voltage		2.0		$V_{CC} + 1$	V
V_{OL}	Output low voltage	$I_{OL} = 2.1mA$			0.45	V
V_{OH}	Output high voltage	$I_{OH} = -400\mu A$	2.4			V

A.C. ELECTRICAL CHARACTERISTICS ($T_a = 0 \sim 70°C$, $V_{CC} = 5V \pm 10\%$, unless otherwise noted)

Symbol	Parameter	Conditions	Limits			Unit
			Min	Typ	Max	
$t_{a(AD)}$	Address to output delay	$CS/\overline{CS} = H/L$			250	ns
$t_{a(CS/\overline{CS})}$	Chip select to output delay		10		100	ns
t_{DF}	Chip select to output float		10		90	ns
t_{OH}	Output hold from chip select		10			ns

A.C. WAVEFORMS
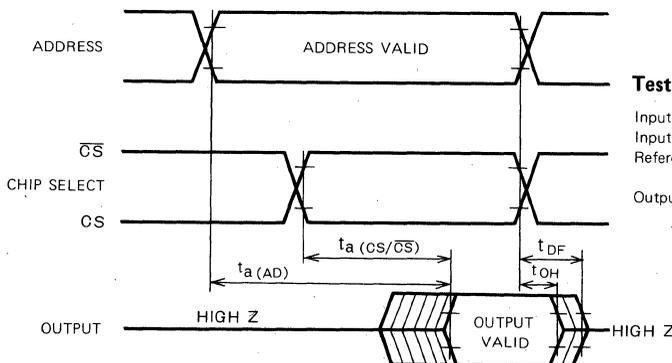
Test Conditions for A.C. Characteristics

Input voltage: $V_{IL} = 0.8V$, $V_{IH} = 2.2V$
Input rise and fall times: $\leqq 20ns$
Reference voltage at timing measurement: Input 1V and 2V
Outputs 0.8V and 2V

Output road: 1 TTL gate, $C_L = 100pF$

MITSUBISHI ELECTRIC

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CAPACITANCE ($T_a = 25°C$, $f = 1MHz$)

Symbol	Parameter	Conditions	Limits			Unit
			Min	Typ	Max	
C_{IN}	Input capacitance	$V_{IN} = 0V$		4	6	pF
C_{OUT}	Output capacitance	$V_{OUT} = 0V$		8	12	pF

TYPICAL CHARACTERISTICS

NORMALIZED ACCESS TIME VS. SUPPLY VOLTAGE

$T_a = 25°C$
$C_L = 100pF$

NORMALIZED ACCESS TIME t_a (AD)

SUPPLY VOLTAGE V_{CC} (V)
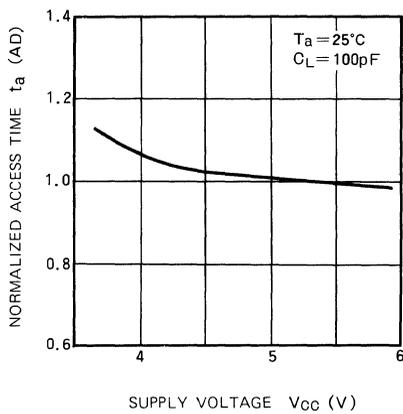
NORMALIZED ACCESS TIME VS. AMBIENT TEMPERATURE

$V_{CC} = 4.5V$
$C_L = 100pF$

NORMALIZED ACCESS TIME t_a (AD)

AMBIENT TEMPERATURE T_a (°C)
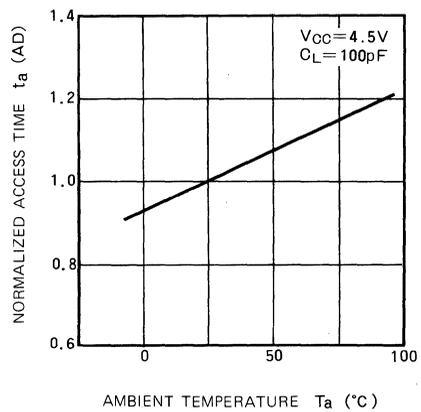
SUPPLY CURRENT VS. SUPPLY VOLTAGE

$T_a = 25°C$

SUPPLY CURRENT I_{CC} (mA)

SUPPLY VOLTAGE V_{CC} (V)
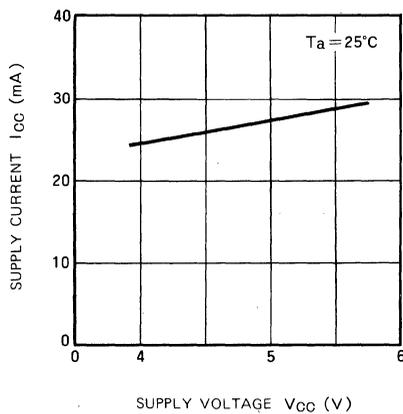
SUPPLY CURRENT VS. AMBIENT TEMPERATURE

$V_{CC} = 5.5V$

SUPPLY CURRENT I_{CC} (mA)

AMBIENT TEMPERATURE T_a (°C)