

8M BIT (512K WORD × 16 BIT/1M WORD × 8BIT) CMOS MASK ROM

DESCRIPTION

The TC538200P/F is a 8,388,608 bits read only memory organized as 524,288 words by 16 bits when BYTE is logical high, and is organized as 1,048,576 words by 8 bits when BYTE is logical low.

The TC538200P/F is most suitable for the program memory, data memory, and character generator.

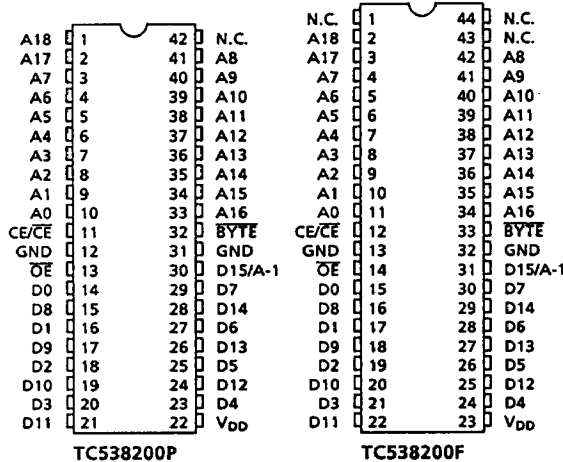
The TC538200P/F has a programmable chip enable input CE/CE for device selection.

The TC538200P/F is packaged in a standard 600mil 42pin DIP, or 600mil 44 pin SOP.

FEATURES

- Single 5V Power Supply
- Access Time : 200ns (Max.)
- Power Dissipation
 - Operating Current : 50mA (Max.)
 - Standby Current : 100µA (Max.)
- Fully Static Operation
- All Inputs and Outputs : TTL Compatible
- Three State Outputs
- Programmable Chip Enable
- 42pin 600mil width Plastic DIP
- 44pin 600mil width Plastic SOP

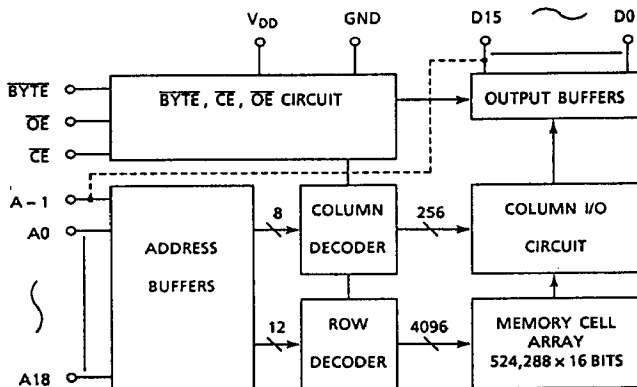
PIN CONNECTION (TOP VIEW)



PIN NAMES

A0~A18	Address inputs
D0~D14	Data Outputs
CE/CE	Chip Enable Input
OE	Output Enable Input
D15/A-1	Data Output/Address Input
BYTE	Word, Byte selection Input
VDD	Power Supply
GND	Ground
N.C.	No Connection

BLOCK DIAGRAM



MODE SELECTION

MODE	CE (CE)	OE	BYTE	D0 - D7	D8 - D14	D15 / A - 1	Power
Read (16 Bit)	L (H)	L	H	Data Out			Active
Read (8 Bit)	L (H)	L	L	Data Out (Lower 8bit)	High Impedance	L	Active
Read (8 Bit)	L (H)	L	L	Data Out (Upper 8bit)	High Impedance	H	Active
Output Deselect	L (H)	H	*	High Impedance			Active
Standby	H (L)	*	*	High Impedance			Standby

H : V_{IH} L : V_{IL} * : V_{IH} or V_{IL}

MAXIMUM RATINGS

SYMBOL	ITEM	RATING	UNIT
V_{DD}	Power Supply Voltage	- 0.5~7.0	V
V_{IN}	Input Voltage	- 0.5~ V_{DD}	V
V_{OUT}	Output Voltage	0~ V_{DD}	V
P_D	Power Dissipation	1.0 / 0.6*	W
T_{STG}	Storage Temperature	- 55~150	°C
T_{OPR}	Operating Temperature	0~70	°C
T_{SOLDER}	Soldering Temperature · Time	260 · 10	°C · sec

* SOP

D.C. OPERATING CONDITIONS (Ta = 0~70°C)

SYMBOL	PARAMETER	MIN.	TYP.	MAX.	UNIT
V _{DD}	Power Supply Voltage	4.5	5.0	5.5	V
V _{IH}	Input High Voltage	2.2	-	V _{DD} + 0.3	V
V _{IL}	Input Low Voltage	-0.3	-	0.8	V

D.C. and OPERATING CHARACTERISTICS (Ta = 0~70°C)

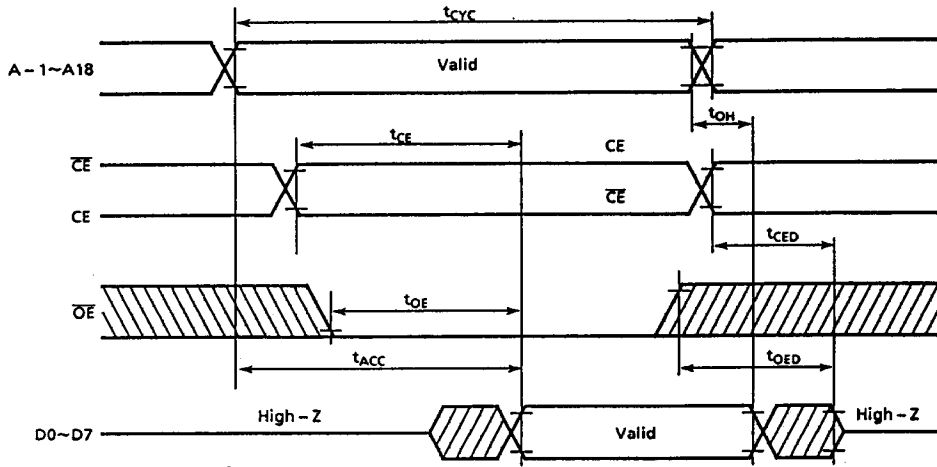
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
i _{IL}	Input Leakage Current	V _{IN} = 0~V _{DD}	-	± 1.0	μA
I _{LO}	Output Leakage Current	V _{OUT} = 0~V _{DD}	-	± 5.0	μA
I _{OH}	Output High Current	V _{OH} = 2.4V	-1.0	-	mA
I _{OL}	Output Low Current	V _{OL} = 0.4V	2.0	-	mA
I _{DDs1}	Standby Current	$\overline{CE} = V_{IH}$	-	2	mA
I _{DDs2}		$\overline{CE} = V_{DD} - 0.2V$	-	100	μA
I _{DDO1}	Operating Current	V _{IN} = V _{IH} / V _{IL} , t _{cycle} = 200ns	-	60	mA
I _{DDO2}		V _{IN} = V _{DD} - 0.2V / 0.2V, t _{cycle} = 200ns	-	50	mA

CAPACITANCE f = 1MHz, Ta = 25°C

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
C _{IN}	Input Capacitance	V _{IN} = 0V	-	10	pF
C _{OUT}	Output Capacitance	V _{OUT} = 0V	-	12	pF

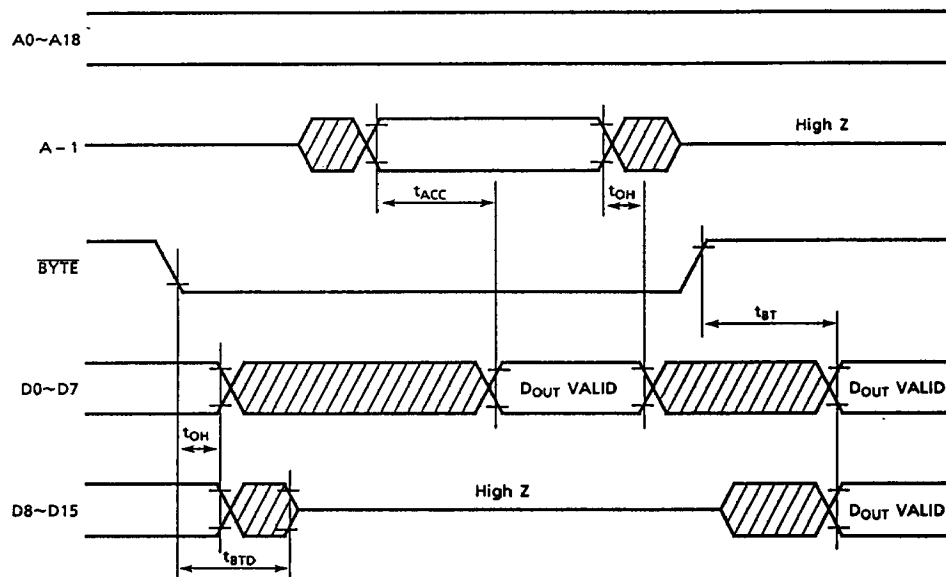
Note : This Parameter is periodically sampled and is not 100% tested.

BYTE - WIDE READ MODE



Note: $\overline{BYTE} = V_{IL}$

BYTE TRANSITION



Note: $CE(\overline{CE}) = V_{IH}(V_{IL}), \overline{OE} = V_{IL}$

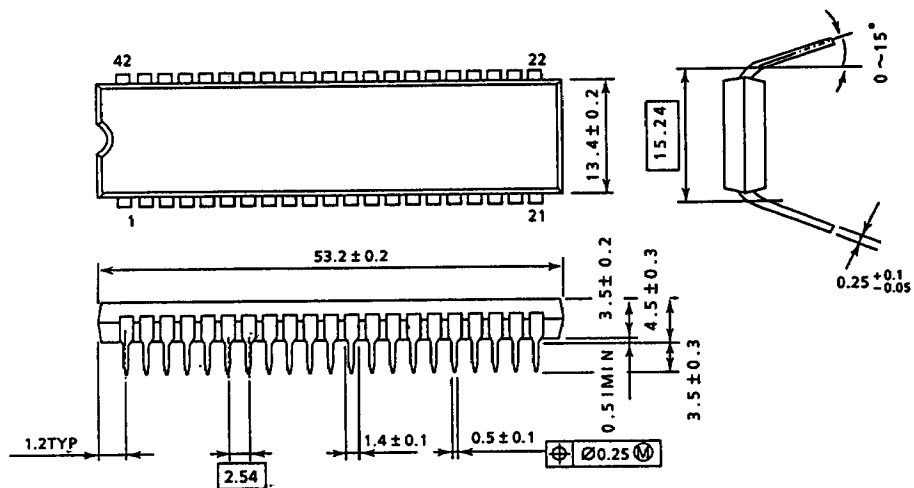
TC538200P/F-20

OUTLINE DRAWINGS

● Plastic DIP

DIP42-P-600

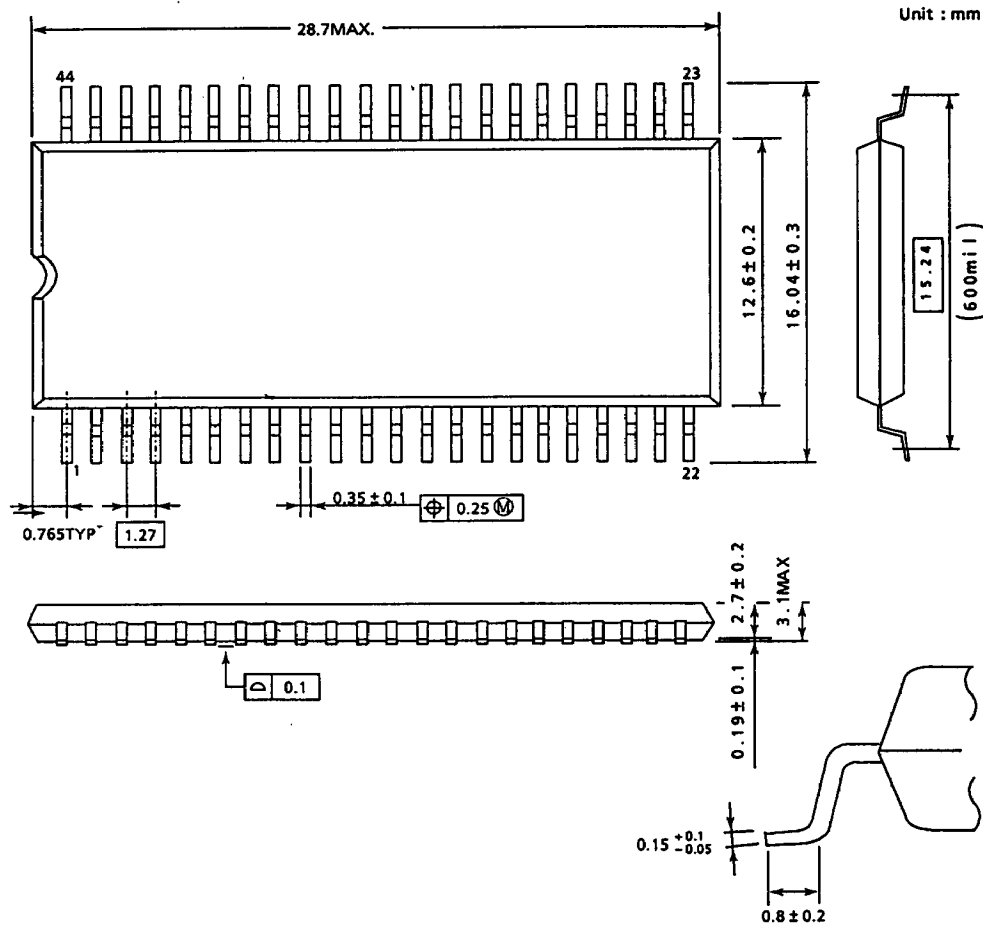
Unit: mm



Note : Package width and length do not include mold protrusion, allowable mold protrusion is 0.15mm.

OUTLINE DRAWINGS

- Plastic SOP
- SOP44-P-600



Note : Package width and length do not include mold protrusion, allowable mold protrusion is 0.15mm.