

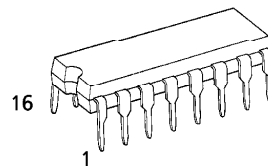
TC4512BP, TC4512BF, TC4512BFN

TC4512B 8-CHANNEL DATA SELECTOR

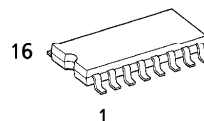
TC4512B is data selector which selects 8 channel data inputs (X0 through X7) according to binary address inputs A, B and C. Since high impedance can be given to output Z by setting DISABLE input to "H", the wired-OR arrangement can be achieved. DISABLE input takes precedence over other inputs giving the output high impedance.

If DISABLE="L" and INHIBIT="H", the data select operation is inhibited and output Z becomes "L" Level.

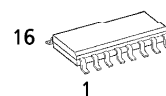
(Note) The JEDEC SOP (FN) is not available in Japan.



P (DIP16-P-300-2.54A)
Weight : 1.00g (Typ.)



F (SOP16-P-300-1.27)
Weight : 0.18g (Typ.)



FN (SOL16-P-150-1.27)
Weight : 0.13g (Typ.)

MAXIMUM RATINGS

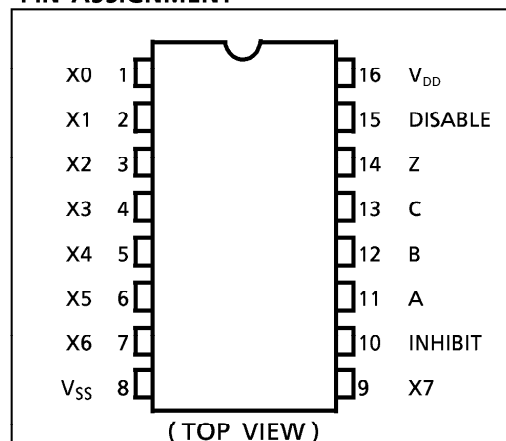
CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	$V_{SS} - 0.5 \sim V_{SS} + 20$	V
Input Voltage	V_{IN}	$V_{SS} - 0.5 \sim V_{DD} + 0.5$	V
Output Voltage	V_{OUT}	$V_{SS} - 0.5 \sim V_{DD} + 0.5$	V
DC Input Current	I_{IN}	± 10	mA
Power Dissipation	P_D	300 (DIP) / 180 (SOIC)	mW
Operating Temperature Range	T_{opr}	$-40 \sim 85$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-65 \sim 150$	$^{\circ}\text{C}$

TRUTH TABLE

INPUTS					OUTPUT
A	B	C	INHIBIT	DISABLE	Z
L	L	L	L	L	X0
H	L	L	L	L	X1
L	H	L	L	L	X2
H	H	L	L	L	X3
L	L	H	L	L	X4
H	L	H	L	L	X5
L	H	H	L	L	X6
H	H	H	L	L	X7
*	*	*	H	L	L
*	*	*	*	H	HZ

* : DON'T CARE
HZ : HIGH IMPEDANCE

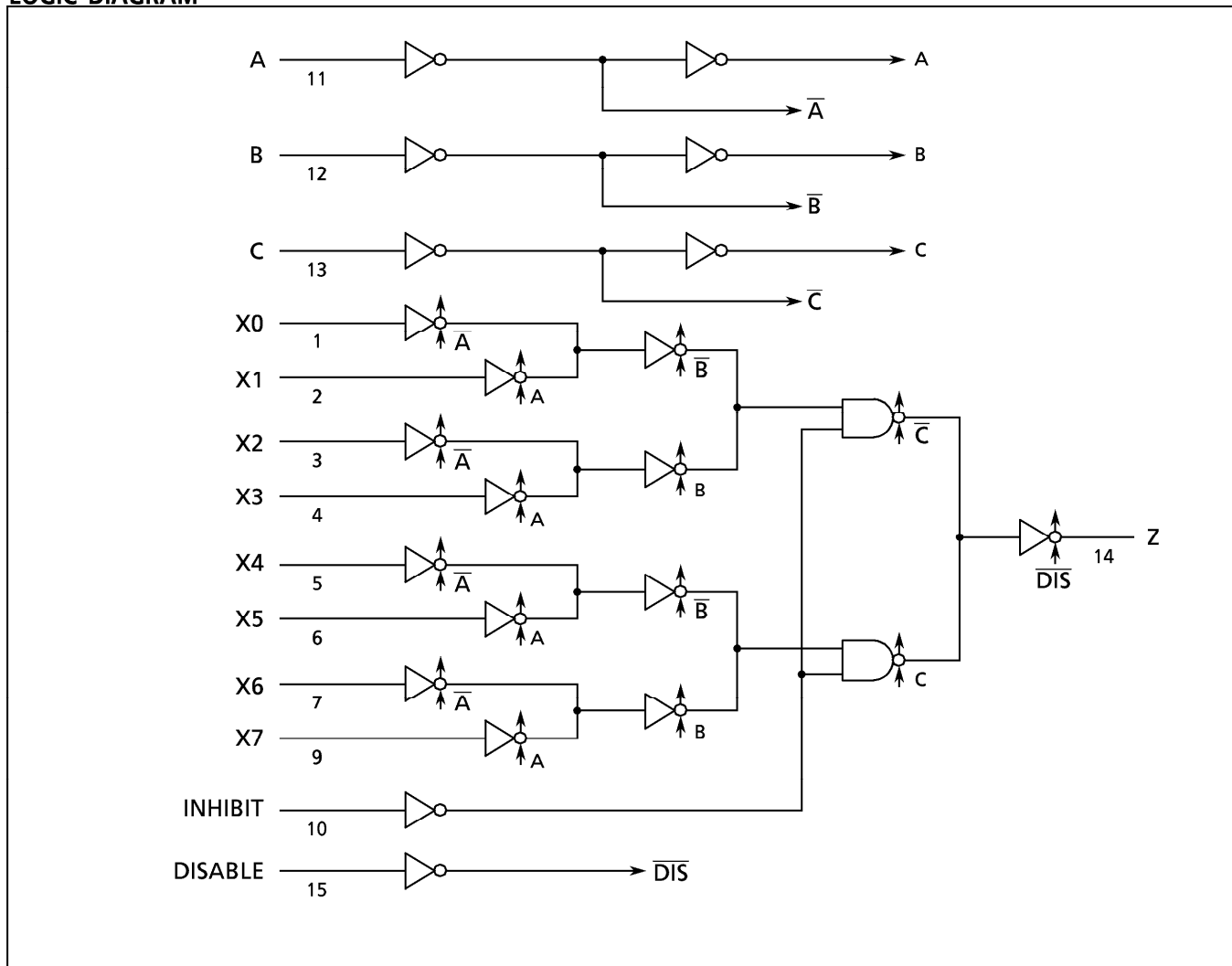
PIN ASSIGNMENT



961001EBA2

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LOGIC DIAGRAM



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- The information contained herein is subject to change without notice.

RECOMMENDED OPERATING CONDITIONS ($V_{SS} = 0V$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
DC Supply Voltage	V_{DD}		3	—	18	V
Input Voltage	V_{IN}		0	—	V_{DD}	V

STATIC ELECTRICAL CHARACTERISTICS ($V_{SS} = 0V$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	V _{DD} (V)	- 40°C		25°C			85°C		UNIT
					MIN.	MAX.	MIN.	TYP.	MAX.	MIN.	MAX.	
High-Level Output Voltage		V _{OH}	I _{OUT} < 1 μA V _{IN} = V _{SS} , V _{DD}	5 10 15	4.95 9.95 14.95	— — —	4.95 9.95 14.95	5.00 10.00 15.00	— — —	4.95 9.95 14.95	— — —	V
Low-Level Output Voltage		V _{OL}	I _{OUT} < 1 μA V _{IN} = V _{SS} , V _{DD}	5 10 15	— — —	0.05 0.05 0.05	— — —	0.00 0.00 0.00	0.05 0.05 0.05	— — —	0.05 0.05 0.05	
Output High Current		I _{OH}	V _{OH} = 4.6V	5	- 0.61	—	- 0.51	- 1.0	—	- 0.42	—	
			V _{OH} = 2.5V	5	- 2.5	—	- 2.1	- 4.0	—	- 1.7	—	
			V _{OH} = 9.5V	10	- 1.5	—	- 1.3	- 2.2	—	- 1.1	—	
			V _{OH} = 13.5V	15	- 4.0	—	- 3.4	- 9.0	—	- 2.8	—	
		V _{IN} = V _{SS} , V _{DD}										
Output Low Current		I _{OL}	V _{OL} = 0.4V	5	0.61	—	0.51	1.2	—	0.42	—	
			V _{OL} = 0.5V	10	1.5	—	1.3	3.2	—	1.1	—	
			V _{OL} = 1.5V	15	4.0	—	3.4	12.0	—	2.8	—	
			V _{IN} = V _{SS} , V _{DD}									
Input High Voltage		V _{IH}	V _{OUT} = 0.5V, 4.5V	5	3.5	—	3.5	2.75	—	3.5	—	
			V _{OUT} = 1.0V, 9.0V	10	7.0	—	7.0	5.5	—	7.0	—	
			V _{OUT} = 1.5V, 13.5V	15	11.0	—	11.0	8.25	—	11.0	—	
			I _{OUT} < 1 μA									
Input Low Voltage		V _{IL}	V _{OUT} = 0.5V, 4.5V	5	—	1.5	—	2.25	1.5	—	1.5	
			V _{OUT} = 1.0V, 9.0V	10	—	3.0	—	4.5	3.0	—	3.0	
			V _{OUT} = 1.5V, 13.5V	15	—	4.0	—	6.75	4.0	—	4.0	
			I _{OUT} < 1 μA									
Input Current	"H" Level	I _{IH}	V _{IH} = 18V	18	—	0.1	—	10 ⁻⁵	0.1	—	1.0	
	"L" Level	I _{IL}	V _{IL} = 0V	18	—	- 0.1	—	- 10 ⁻⁵	- 0.1	—	- 1.0	
3-State Output Leakage Current	"H" Level	I _{DH}	V _{OH} = 18V	18	—	0.4	—	10 ⁻⁴	0.4	—	12	μA
	"L" Level	I _{DL}	V _{OL} = 0V	18	—	- 0.4	—	- 10 ⁻⁴	- 0.4	—	- 12	
Quiescent Supply Current		I _{DD}	V _{IN} = V _{SS} , V _{DD} *	5 10 15	— — —	5 10 20	— — —	0.005 0.010 0.015	5 10 20	— — —	150 300 600	μA

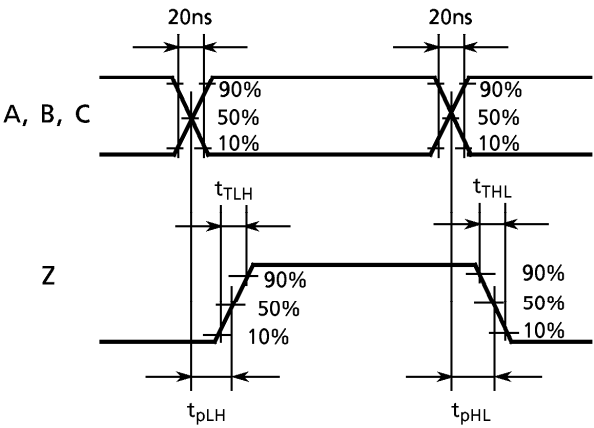
* All valid input combinations.

DYNAMIC ELECTRICAL CHARACTERISTICS (Ta = 25°C, Vss = 0V, CL = 50pF)

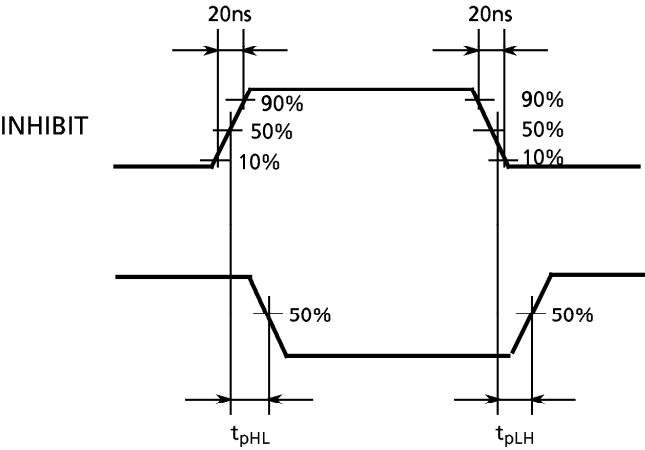
CHARACTERISTIC	SYMBOL	TEST CONDITION	V _{DD} (V)	MIN.	TYP.	MAX.	UNIT
Output Transition Time (Low to High)	t _{TLH}		5 10 15	— — —	80 50 40	200 100 80	ns
Output Transition Time (High to Low)	t _{THL}		5 10 15	— — —	80 50 40	200 100 80	
Propagation Delay Time (INHIBIT - Z)	t _{pLH} t _{pHL}		5 10 15	— — —	140 60 40	280 140 100	
Propagation Delay Time (A, B, C - Z)	t _{pLH} t _{pHL}		5 10 15	— — —	240 95 65	400 170 120	
Propagation Delay Time (X - Z)	t _{pLH} t _{pHL}		5 10 15	— — —	210 85 60	360 150 110	
Three State Disable Time (DISABLE - Z)	t _{pZL} , t _{pLZ} t _{pHZ} , t _{pZH}	R _L = 1kΩ	5 10 15	— — —	60 25 20	120 60 40	
Input Capacitance	C _{IN}			—	5	7.5	pF

WAVEFORM FOR MEASUREMENT OF DYNAMIC CHARACTERISTICS

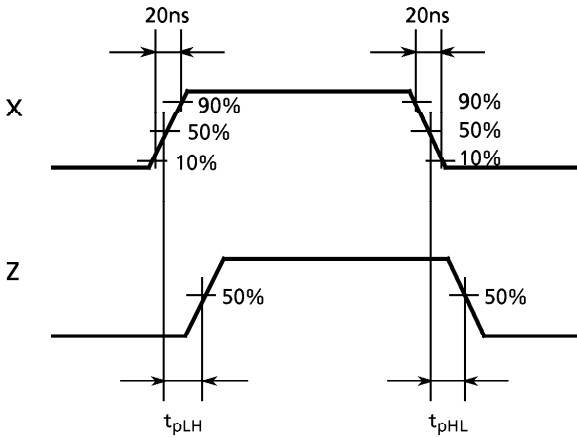
WAVEFORM 1



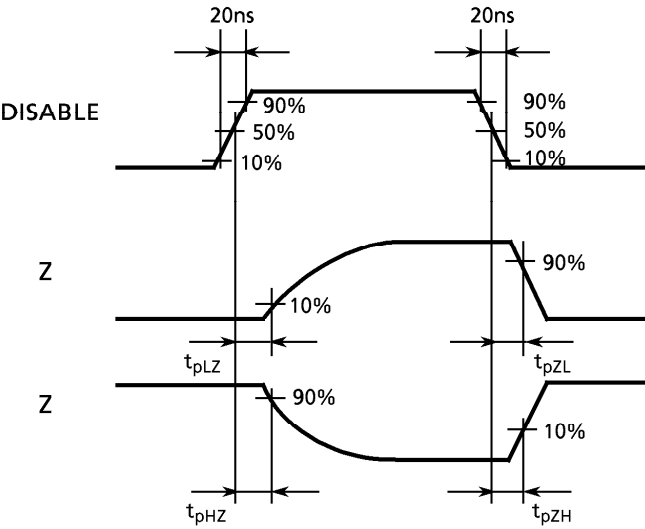
WAVEFORM 2 (X = "H")



WAVEFORM 3

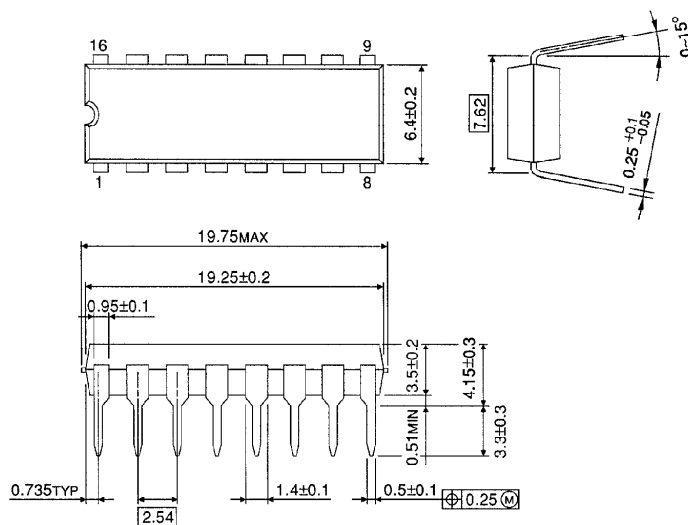


WAVEFORM 4



DIP 16PIN OUTLINE DRAWING (DIP16-P-300-2.54A)

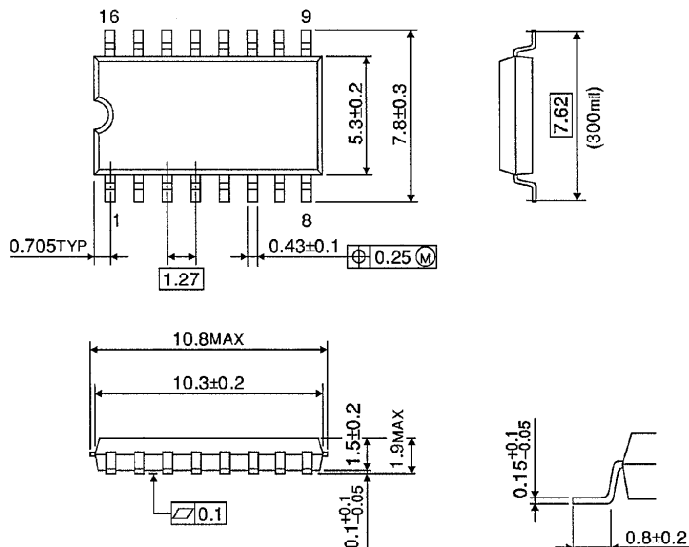
Unit in mm



Weight : 1.00g (Typ.)

SOP 16PIN (200mil BODY) OUTLINE DRAWING (SOP16-P-300-1.27)

Unit in mm

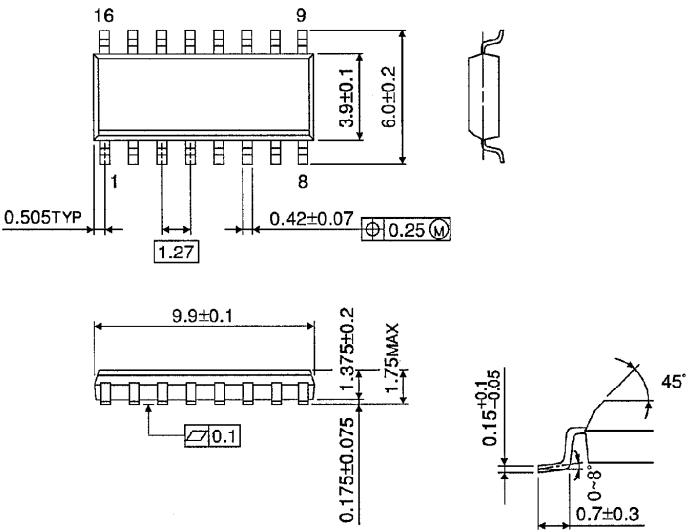


Weight : 0.18g (Typ.)

SOP 16PIN (150mil BODY) OUTLINE DRAWING (SOL16-P-150-1.27)

Unit in mm

(Note) This package is not available in Japan.



Weight : 0.13g (Typ.)

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Datasheets for electronic components.