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# HD74HC365

Hex Bus Drivers (with 3-state outputs)

# HITACHI

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## Features

- High Speed Operation:  $t_{pd}$  (A to Y) = 9.0 ns typ ( $C_L = 50$  pF)
- High Output Current: Fanout of 15 LSTTL Loads
- Wide Operating Voltage:  $V_{CC} = 2$  to 6 V
- Low Input Current: 1  $\mu$ A max
- Low Quiescent Supply Current:  $I_{CC}$  (static) = 4  $\mu$ A max ( $T_a = 25^\circ\text{C}$ )

## Function Table

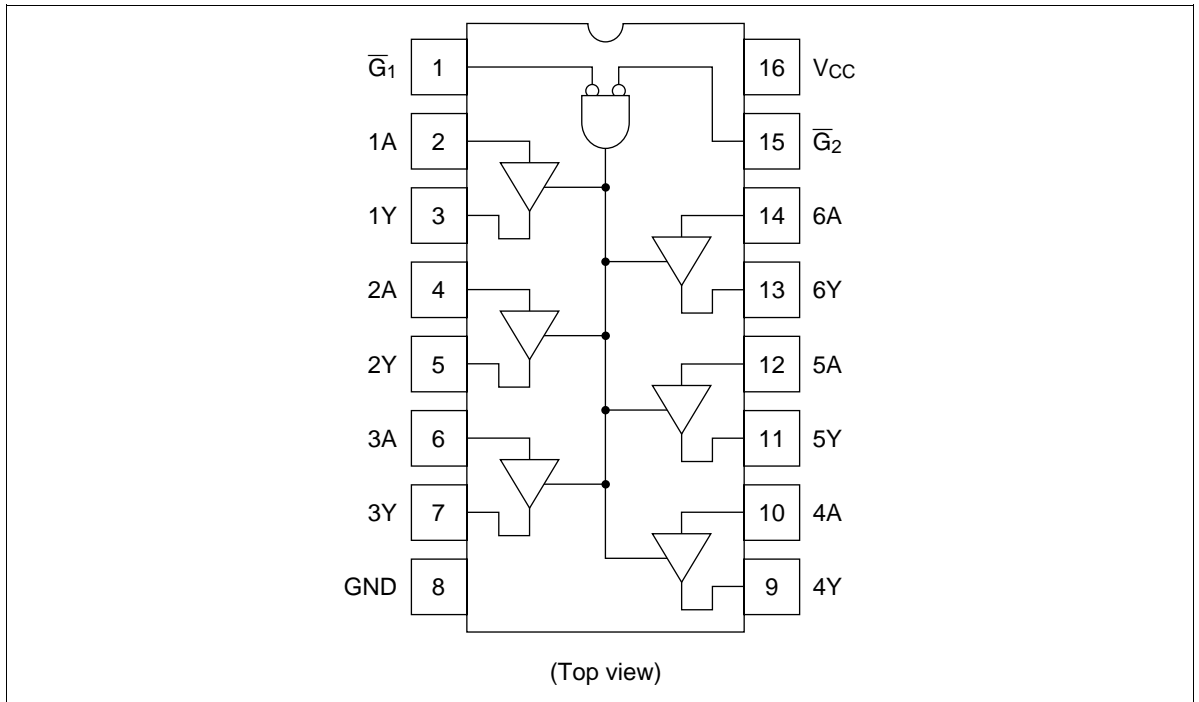
Inputs			Output
$\overline{G}_1$	$\overline{G}_2$	A	Y
H	X	X	Z
X	H	X	Z
L	L	L	L
L	L	H	H

Z : Off (high-impedance) state of a 3-state

X : irrelevant

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## Pin Arrangement



## Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply voltage range	$V_{CC}$	-0.5 to +7.0	V
Input voltage	$V_{IN}$	-0.5 to $V_{CC} + 0.5$	V
Output voltage	$V_{OUT}$	-0.5 to $V_{CC} + 0.5$	V
DC current drain per pin	$I_{OUT}$	$\pm 35$	mA
DC current drain per $V_{CC}$ , GND	$I_{CC}$ , $I_{GND}$	$\pm 75$	mA
DC input diode current	$I_{IK}$	$\pm 20$	mA
DC output diode current	$I_{OK}$	$\pm 20$	mA
Power dissipation per package	$P_T$	500	mW
Storage temperature	$T_{stg}$	-65 to +150	$^{\circ}C$

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DC Characteristics

Item	Symbol	V <sub>CC</sub> (V)	Ta = 25°C			Ta = -40 to +85°C		Unit	Test Conditions	
			Min	Typ	Max	Min	Max			
Input voltage	V <sub>IH</sub>	2.0	1.5	—	—	1.5	—	V		
		4.5	3.15	—	—	3.15	—			
		6.0	4.2	—	—	4.2	—			
	V <sub>IL</sub>	2.0	—	—	0.5	—	0.5			V
		4.5	—	—	1.35	—	1.35			
		6.0	—	—	1.8	—	1.8			
Output voltage	V <sub>OH</sub>	2.0	1.9	2.0	—	1.9	—	V	Vin = V <sub>IH</sub> or V <sub>IL</sub> I <sub>OH</sub> = -20 μA	
		4.5	4.4	4.5	—	4.4	—			
		6.0	5.9	6.0	—	5.9	—			
		4.5	4.18	—	—	4.13	—			I <sub>OH</sub> = -6 mA
		6.0	5.68	—	—	5.63	—			I <sub>OH</sub> = -7.8 mA
		6.0	—	0.0	0.1	—	0.1			V
	V <sub>OL</sub>	4.5	—	0.0	0.1	—	0.1			
		6.0	—	0.0	0.1	—	0.1			
		4.5	—	—	0.26	—	0.33	I <sub>OL</sub> = 6 mA		
		6.0	—	—	0.26	—	0.33	I <sub>OL</sub> = 7.8 mA		
		6.0	—	—	±0.5	—	±5.0	μA	Vin = V <sub>IH</sub> or V <sub>IL</sub> , Vout = V <sub>CC</sub> or GND	
		Off-state output current	I <sub>OZ</sub>	6.0	—	—	±0.5	—		±5.0
Input current	I <sub>in</sub>	6.0	—	—	±0.1	—	±1.0	μA	Vin = V <sub>CC</sub> or GND	
Quiescent supply current	I <sub>CC</sub>	6.0	—	—	4.0	—	40	μA	Vin = V <sub>CC</sub> or GND, Iout = 0 μA	

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AC Characteristics ( $C_L = 50$  pF, Input  $t_r = t_f = 6$  ns)

Item	Symbol	$V_{CC}$ (V)	$T_a = 25^\circ\text{C}$			$T_a = -40$ to $+85^\circ\text{C}$		Unit	Test Conditions
			Min	Typ	Max	Min	Max		
Propagation delay time	$t_{PLH}$	2.0	—	—	120	—	150	ns	
	$t_{PHL}$	4.5	—	9	24	—	30		
		6.0	—	—	20	—	26		
Output enable time	$t_{ZH}$	2.0	—	—	220	—	275	ns	
	$t_{ZL}$	4.5	—	13	44	—	55		
		6.0	—	—	37	—	47		
Output disable time	$t_{HZ}$	2.0	—	—	220	—	275	ns	
	$t_{LZ}$	4.5	—	15	44	—	55		
		6.0	—	—	37	—	47		
Output rise/fall time	$t_{TLH}$	2.0	—	—	60	—	75	ns	
	$t_{THL}$	4.5	—	4	12	—	15		
		6.0	—	—	10	—	13		
Input capacitance	$C_{in}$	—	—	5	10	—	10	pF	



Hitachi Code	DP-16
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.07 g



\*Dimension including the plating thickness  
Base material dimension

Hitachi Code	FP-16DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.24 g



\*Dimension including the plating thickness  
 Base material dimension

Hitachi Code	FP-16DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.15 g

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