

HD74HC132

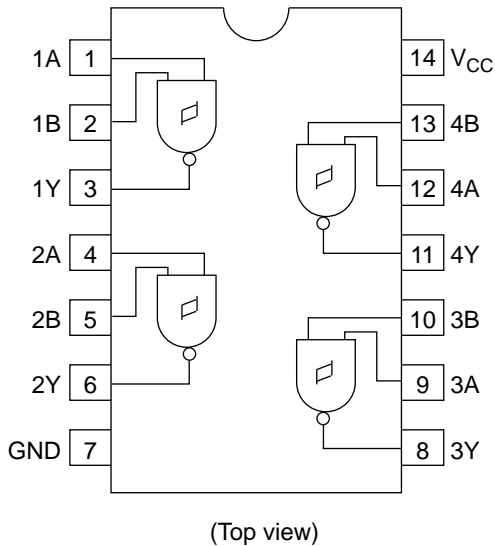
Quad. 2-input NAND Schmitt Triggers

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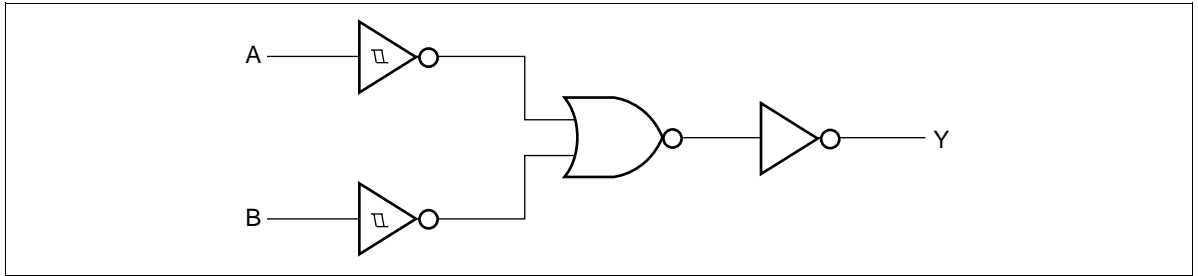
Features

- High Speed Operation: $t_{pd} = 9.5$ ns typ ($C_L = 50$ pF)
- High Output Current: Fanout of 10 LSTTL Loads
- Wide Operating Voltage: $V_{CC} = 2$ to 6 V
- Low Input Current: 1 μ A max
- Low Quiescent Supply Current: I_{CC} (static) = 1 μ A max ($T_a = 25^\circ\text{C}$)

Pin Arrangement



Logic Diagram (1/4)



DC Characteristics

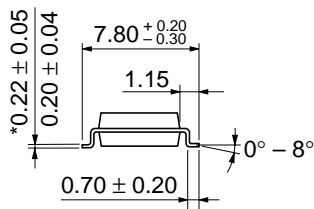
Item	Symbol	V _{CC} (V)	Ta = 25°C		Ta = -40 to +85°C		Unit	Test Conditions		
			Min	Typ	Max	Min			Max	
Threshold voltage	V _{T+}	2.0	0.8	—	1.5	0.8	1.5	V		
		4.5	2.25	—	3.15	2.25	3.15			
		6.0	3.0	—	4.2	3.0	4.2			
	V _{T-}	2.0	0.2	—	1.0	0.2	1.0	V		
		4.5	0.9	—	2.25	0.9	2.25			
		6.0	1.2	—	3.0	1.2	3.0			
Hysteresis voltage	V _H	2.0	0.2	—	1.2	0.2	1.2	V		
		4.5	0.4	—	2.25	0.4	2.25			
		6.0	0.6	—	3.0	0.6	3.0			
Output voltage	V _{OH}	2.0	1.9	2.0	—	1.9	—	V	Vin = V _{IH} or V _{IL} I _{OH} = -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 _{OH} = -4 mA
		6.0	5.68	—	—	5.63	—			I _{OH} = -5.2 mA
		6.0	—	0.0	0.1	—	0.1			V
	V _{OL}	4.5	—	0.0	0.1	—	0.1	V	I _{OL} = 4 mA	
		6.0	—	0.0	0.1	—	0.1			
		4.5	—	—	0.26	—	0.33			I _{OL} = 5.2 mA
		6.0	—	—	0.26	—	0.33			
Input current	I _{in}	6.0	—	—	±0.1	—	±1.0	μA	Vin = V _{CC} or GND	
Quiescent supply current	I _{CC}	6.0	—	—	1.0	—	10	μA	Vin = V _{CC} or GND, I _{out} = 0 μA	

AC Characteristics ($C_L = 50 \text{ pF}$, Input $t_r = t_f = 6 \text{ ns}$)

Item	Symbol	V_{CC} (V)	$T_a = 25^\circ\text{C}$		$T_a = -40 \text{ to } +85^\circ\text{C}$		Unit	Test Conditions
			Min	Typ	Max	Min		
Propagation delay time	t_{PLH}	2.0	—	—	100	—	125	ns
		4.5	—	8	20	—	25	
		6.0	—	—	17	—	21	
	t_{PHL}	2.0	—	—	100	—	125	
		4.5	—	11	20	—	25	
		6.0	—	—	17	—	21	
Output rise/fall time	t_{TLH}	2.0	—	—	75	—	95	ns
	t_{THL}	4.5	—	5	15	—	19	
		6.0	—	—	13	—	16	
Input capacitance	C_{in}	—	—	5	10	—	10	pF



Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.23 g

*Dimension including the plating thickness
Base material dimension



Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.13 g

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