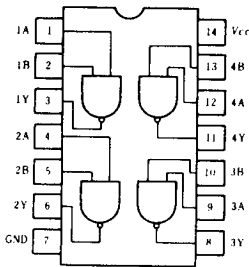


HD74ALS00

●Quadruple 2-input Positive NAND Gates

PIN ARRANGEMENT



(Top View)

ELECTRICAL CHARACTERISTICS (Ta = -20 ~ +75°C)

Item	Symbol	Test Conditions	min	typ*	max	Unit
Input voltage	V_{IH}		2.0	—	—	V
	V_{IL}		—	—	0.8	V
Output voltage	V_{OH}	$V_{CC}=4.5V, V_{IL}=0.8V, I_{OH}=-400\mu A$	2.5	—	—	V
		$V_{CC}=4.75V, V_{IL}=0.8V, I_{OH}=-400\mu A$	2.7	—	—	V
	V_{OL}	$V_{CC}=4.5V, V_{IH}=2V, I_{OL}=4mA$	—	—	0.4	V
		$V_{CC}=4.75V, V_{IH}=2V, I_{OL}=8mA$	—	—	0.5	V
Input current	I_{IH}	$V_{CC}=5.5V, V_I=2.7V$	—	—	20	μA
	I_I	$V_{CC}=5.5V, V_I=7V$	—	—	0.1	mA
	I_{IL}	$V_{CC}=5.5V, V_I=0.4V$	—	—	-0.2	mA
Output drive current	I_{OD}	$V_{CC}=5.5V, V_O=2.125V$	-10	—	-60	mA
Supply current	I_{CCN}	$V_{CC}=5.5V, V_I=0V$	—	0.43	0.85	mA
	I_{CCL}	$V_{CC}=5.5V, V_I=4.5V$	—	1.62	3.0	mA
Input clamp voltage	V_{IK}	$V_{CC}=4.5V, I_I=-18mA$	—	—	-1.5	V

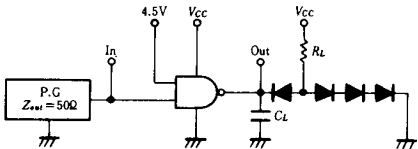
* $V_{CC}=5V, T_a=25^\circ C$

SWITCHING CHARACTERISTICS

Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	$V_{CC}=5V, T_a=25^\circ C, R_L=500\Omega, C_L=15pF$	—	4	—	ns
	t_{PHL}		—	5	—	
	t_{PLH}	$V_{CC}=5.0\pm 0.5V, T_a=-20\sim +75^\circ C, R_L=500\Omega, C_L=50pF$	3	—	11	
	t_{PHL}		3	—	11	

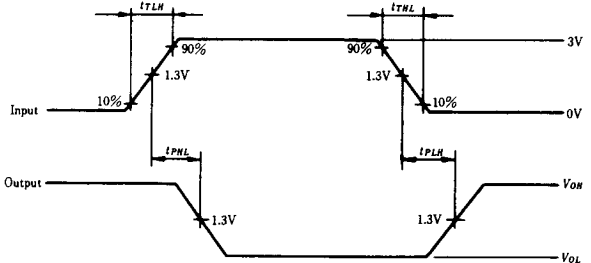
TESTING METHOD

Test Circuit



- Notes: 1. C_L includes probe and jig capacitance.
2. All diodes are 1S2074 (D).

Waveform



Input pulse: $t_{PLH} \leq 6ns, t_{PHL} \leq 6ns, PRR = 1MHz, \text{duty cycle } 50\%$