58C 05248 D

HD74ALS22 ●Dual 4-input Positive NAND Gates (with open collector outputs)

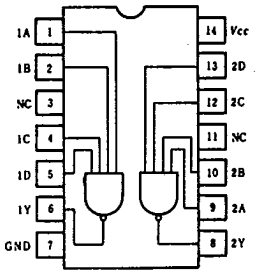
T-43-15

■RECOMMENDED OPERATING CONDITIONS

Item	Symbol	min	typ	max	Unit
High level output voltage	V_{OH}	—	—	5.5	V
Low level output current	I_{OL}*	—	—	8	mA

* V_{CC}=5.0V±0.25V. Voltage value with respect to GND.

■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_{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	
Output current	I_{OH}	V_{CC}=4.5V, V_{IL}=0.8V, V_{OH}=5.5V	—	—	100	μA
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
Supply current	I_{CCH}	V_{CC}=5.5V, V_I=0V	—	0.22	0.40	mA
	I_{CCL}	V_{CC}=5.5V, V_I=4.5V	—	0.8	1.5	mA
Input clamp voltage	V_{IK}	V_{CC}=4.5V, I_{IN}=−18mA	—	—	−1.5	V

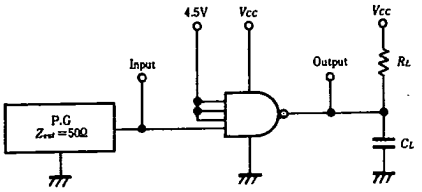
* V_{CC}=5V, Ta=25°C

■SWITCHING CHARACTERISTICS

Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	V_{CC}=5V, Ta=25°C, R_L=2kΩ, C_L=15pF	—	20	—	ns
	t_{PHL}		—	19	—	
	t_{PLH}	V_{CC}=5±0.5V, Ta=−20~+75°C, R_L=2kΩ, C_L=50pF	20	—	54	
	t_{PHL}		13	—	37	

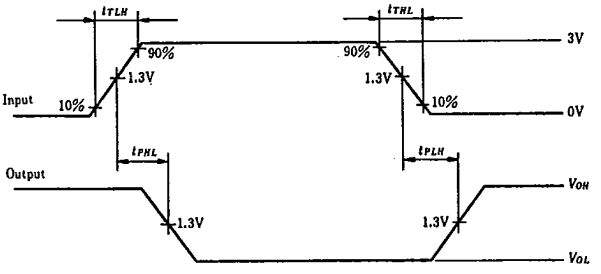
■TESTING METHOD

Test Circuit



Notes: 1. C_L includes probe and jig capacitance.

Waveform



Input pulse: t_{TLH} ≦ 6ns, t_{THL} ≦ 6ns, PRR = 1MHz, duty cycle 50%

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