

Quad 2-Input NAND Gates

DESCRIPTION

The 74HC00 contain four independent, 2-input NAND gates. They perform the Boolean function $Y = \overline{A} \times \overline{B}$ or $Y = \overline{A + B}$ in positive logic. Inputs include clamp diodes.

APPLICATIONS

- AV Receivers
- Portable Audio Docks
- Blu-ray Players and Home Theater
- Wireless Devices

ORDERING INFORMATION

Device	Package
74HC00D	SOP-14L

FEATURES

- Wide Operating Voltage Range of 2.0V to 6.0V
- Outputs Can Drive up to 10 LSTTL Loads
- Low Power Consumption, 20 μ A Maximum I_{CC}
- Typical t_{pd} : 8ns
- ± 4 mA Output Drive at 5.0V
- Low Input Current of 1 μ A Maximum



ABSOLUTE MAXIMUM RATINGS

(Note 1)

CHARACTERISTIC		SYMBOL	MIN.	MAX.	UNIT
DC Supply Voltage		V_{CC}	-0.5	7.0	V
Input Clamp Current (Note 2)	$V_I < 0$ or $V_I > V_{CC}$	I_{IK}	-	± 20	mA
Output Clamp Current (Note 2)	$V_O < 0$	I_{OK}	-	± 20	mA
Continuous Output Current	$V_O = 0$ to V_{CC}	I_{IN}	-	± 25	mA
Continuous Current through V_{CC} or GND			-	± 50	mA
Maximum Junction Temperature		T_J	-	150	$^{\circ}C$
Storage Temperature		T_{STG}	-65	150	$^{\circ}C$

Note 1. Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device.

These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Note 2. The input and output negative-voltage ratings may be exceeded if the input and output clamp current ratings are observed.

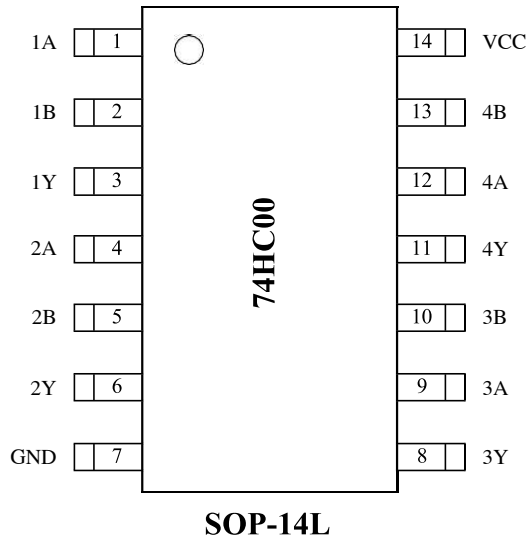
RECOMMENDED OPERATING CONDITIONS

(Note 3)

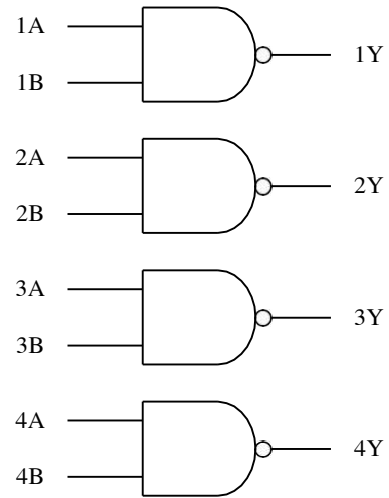
CHARACTERISTIC	SYMBOL	MIN.	MAX.	UNIT
Supply Voltage	V_{CC}	2.0	6.0	V
DC Input Voltage	V_{IN}	0	V_{CC}	V
DC Output Voltage	V_{OUT}	0	V_{CC}	V
Operating Free-Air Temperature Range	T_A	-40	85	$^{\circ}C$

Note 3. The device is not guaranteed to function outside its operating ratings.

PIN CONFIGURATION



BLOCK DIAGRAM



PIN DESCRIPTION

Pin No.	Pin Name	Pin Function
SOP-14L		
1	1A	Input 1A
2	1B	Input 1B
3	1Y	Output 1
4	2A	Input 2A
5	2B	Input 2B
6	2Y	Output 2
7	GND	Ground
8	3Y	Output 3
9	3A	Input 3A
10	3B	Input 3B
11	4Y	Output 4
12	4A	Input 4A
13	4B	Input 4B
14	VCC	Power Supply

ORDERING INFORMATION

Package	Order No.	Description	Supplied As	Status
SOP-14L	74HC00S14	Quad 2-Input NAND Gates	Tape & Reel	Active

Note:

- 74HC00S14 devices are Pb-free and RoHS compliant.
- The surface prints of our semiconductor devices are subject to change during the production process and do not involve changes in electrical parameters, and we will not separately state the notice.
- If you have any other custom purchase needs, please contact our sales department.



ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.



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▲ Update by Apr.2018