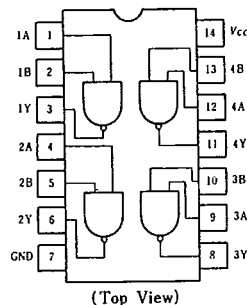


HD74HC00 ● Quad. 2-input NAND Gates

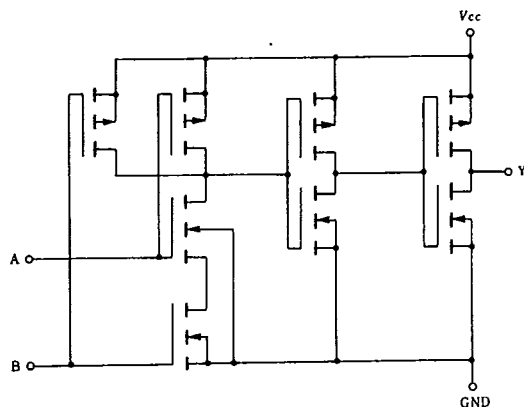
■ FEATURES

- High Speed Operation: $t_{pd}=8.5\text{ns}$ typ. ($C_L = 50\text{pF}$)
- High Output Current: Fanout of 10 LSTTL Loads
- Wide Operating Voltage: $V_{cc}=2\sim 6\text{V}$
- Low Input Current: $1\mu\text{A}$ max.
- Low Quiescent Supply Current: I_{cc} (static) = $1\mu\text{A}$ max. ($T_a=25^\circ\text{C}$)

■ PIN ARRANGMENT



■ CIRCUIT SCHEMATIC (1/4)



■ DC CHARACTERISTICS

Item	Symbol	$V_{cc}(\text{V})$	Test Conditions	$T_a=25^\circ\text{C}$			$T_a=-40\sim+85^\circ\text{C}$		Unit				
				min	typ	max	min	max					
Input Voltage	V_{IH}	2.0		1.5	—	—	1.5	—	V				
		4.5		3.15	—	—	3.15	—					
		6.0		4.2	—	—	4.2	—					
	V_{IL}	2.0		—	—	0.5	—	0.5	V				
		4.5		—	—	1.35	—	1.35					
		6.0		—	—	1.8	—	1.8					
Output Voltage	V_{OH}	2.0	$V_{ix}=V_{IH}$ or V_{IL}	$I_{OH}=-20\mu\text{A}$	1.9	2.0	—	1.9	—	V			
					4.5	4.4	4.5	—	4.4		—		
					6.0	5.9	6.0	—	5.9		—		
		4.5			$I_{OH}=-4\text{mA}$	4.18	—	—	4.13		—		
						6.0	$I_{OH}=-5.2\text{mA}$	5.68	—		—	5.63	—
								—	—		—	—	—
	V_{OL}	2.0	$V_{ix}=V_{IH}$ or V_{IL}	$I_{OL}=20\mu\text{A}$	—	0.0	0.1	—	0.1	V			
					4.5	—	0.0	0.1	—		0.1		
					6.0	—	0.0	0.1	—		0.1		
		4.5			$I_{OL}=4\text{mA}$	—	—	0.26	—		0.33		
						6.0	$I_{OL}=5.2\text{mA}$	—	—		0.26	—	0.33
								—	—		—	—	—
Input Current	I_{ix}	6.0	$V_{ix}=V_{cc}$ or GND	—	—	± 0.1	—	± 1.0	μA				
Quiescent Supply Current	I_{cc}	6.0	$V_{ix}=V_{cc}$ or GND, $I_{in}=0\mu\text{A}$	—	—	1.0	—	10	μA				



HD74HC00

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

Item	Symbol	$V_{CC}(V)$	Test Conditions	$T_a = 25^\circ\text{C}$			$T_a = -40 \sim +85^\circ\text{C}$		Unit
				min	typ	max	min	max	
Propagation Delay Time	t_{PLH}	2.0		—	—	90	—	115	ns
		4.5		—	9	18	—	23	
		6.0		—	—	15	—	20	
	t_{PHL}	2.0		—	—	90	—	115	ns
		4.5		—	8	18	—	23	
		6.0		—	—	15	—	20	
Output Rise Time	t_{TLH}	2.0	—	—	75	—	95	ns	
		4.5	—	7	15	—	19		
		6.0	—	—	13	—	16		
Output Fall Time	t_{THL}	2.0	—	—	75	—	95	ns	
		4.5	—	5	15	—	19		
		6.0	—	—	13	—	16		
Input Capacitance	C_{in}	—		—	5	10	—	10	pF

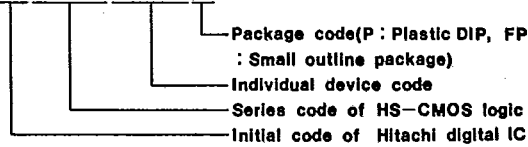
PACKAGE INFORMATION

T-90-20

In the HD74HC series of HS-CMOS logic, either of plastic DIP and small outline packages can be selected.
For your ordering, please refer to the following package code.

● Package code of HS-CMOS Logic

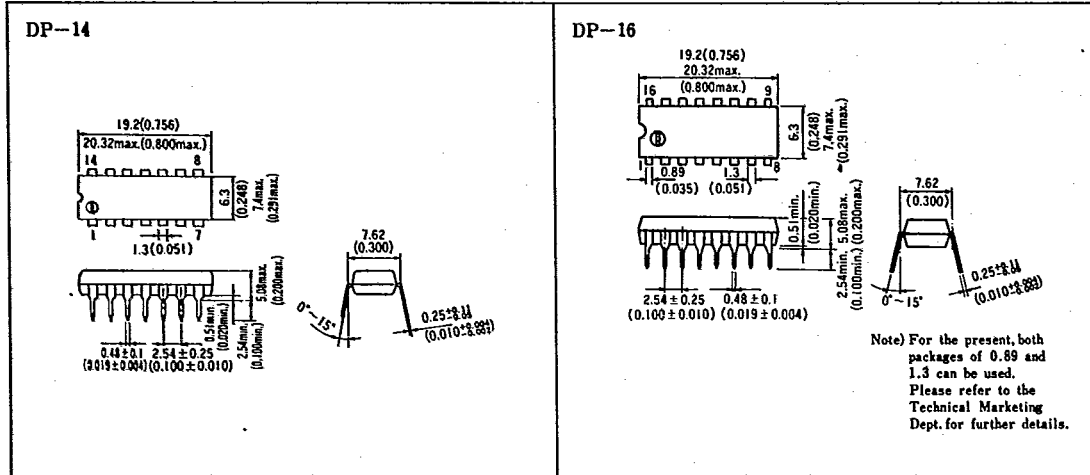
HD74HC XXXXP



■ PLASTIC DIP PACKAGE [Unit: mm (inch), scale: 1/1]

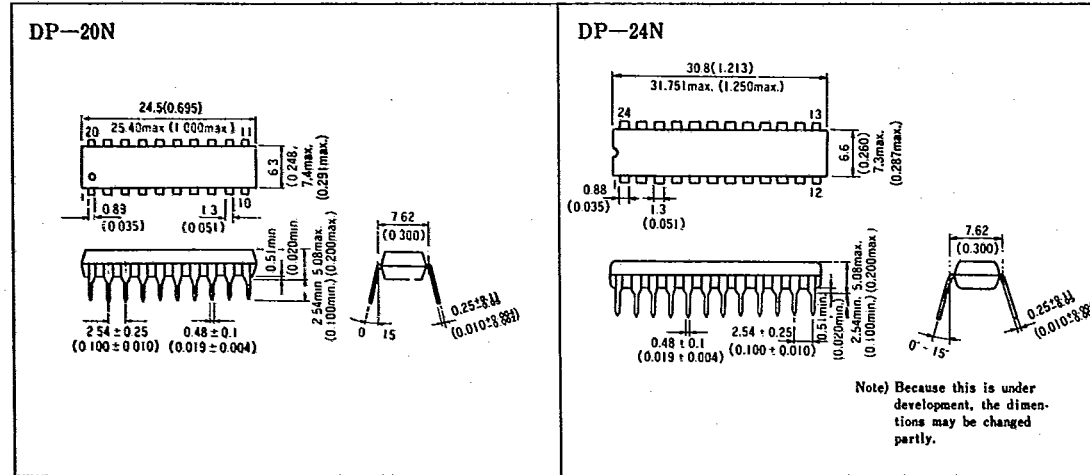
● 14-pin type

● 16-pin type



● 20-pin type

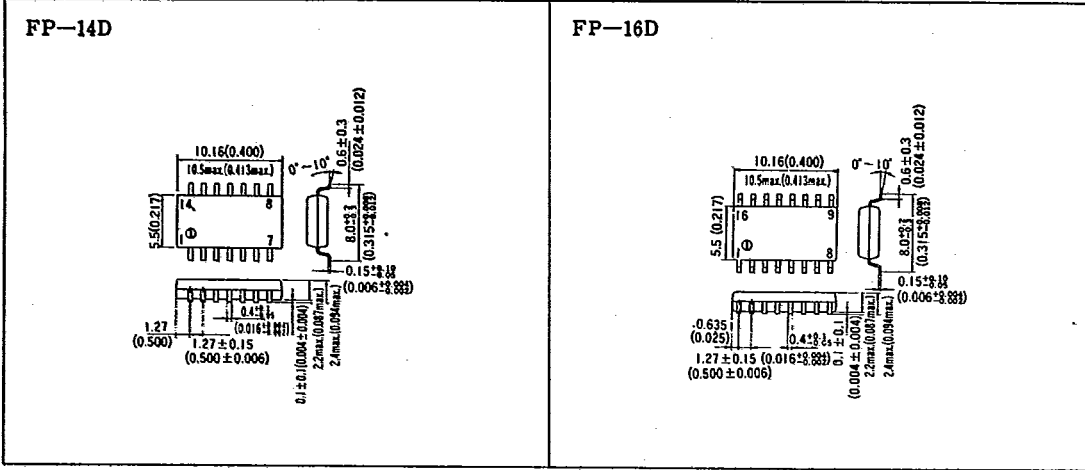
● 24-pin type



SMALL OUTLINE PACKAGE [Unit: mm (inch), scale: 1 1/2]

●14-pin type

●16-pin type



●20-pin type

