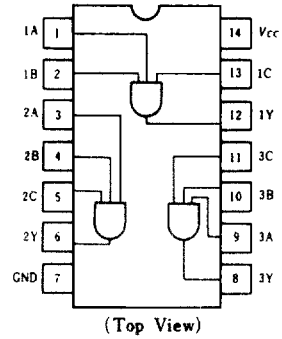


# HD74HC11 ● Triple 3-input AND Gates

## FEATURES

- High Speed Operation:  $t_{pd} = 9\text{ns typ.}$  ( $C_L = 50\text{pF}$ )
- 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:  $I_{CC}(\text{static}) = 1\mu\text{A max.}$  ( $T_a = 25^\circ\text{C}$ )

## PIN ARRANGEMENT



## 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	$V_{i,x} = V_{IH} \text{ or } V_{IL}$	$I_{OH} = -20\mu\text{A}$	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	—
							—	—	—		—	—
	$V_{OL}$	$V_{i,x} = V_{IH} \text{ or } V_{IL}$	$I_{OL} = 20\mu\text{A}$	2.0	—	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	$I_{i,x}$	6.0	$V_{i,x} = V_{CC} \text{ or } \text{GND}$	—	—	$\pm 0.1$	—	$\pm 1.0$	$\mu\text{A}$			
Quiescent Supply Current	$I_{CC}$	6.0	$V_{i,x} = V_{CC} \text{ or } \text{GND}, I_{i,x} = 0\mu\text{A}$	—	—	1.0	—	10	$\mu\text{A}$			

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

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	
Propagation Delay Time	$t_{PLN}$	2.0		—	—	100	—	125	ns
		4.5		—	9	20	—	25	
		6.0		—	—	17	—	21	
	$t_{PHL}$	2.0		—	—	100	—	125	ns
		4.5		—	9	20	—	25	
		6.0		—	—	17	—	21	
Output Rise Time	$t_{TLH}$	2.0	—	—	75	—	95	ns	
		4.5	—	5	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	$C_{i,x}$	—		—	5	10	—	10	pF