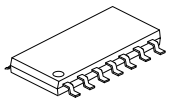
U74AHCT34

CMOS IC

HEX BUFFER



SOP-14

■ DESCRIPTION

The **U74AHCT34** devices contain six independent buffer and they perform function Y=A.

The **U74AHCT34** is characterized for operation from -40°C to 85°C.

■ FEATURES

* Enhanced-Performance Implanted CMOS Process
* Inputs are TTL-Voltage compatible
* Package Options Include Plastic

■ ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74AHCT34L-S14-R	U74AHCT34G-S14-R	SOP-14	Tape Reel

U74AHCT34G-S14-R

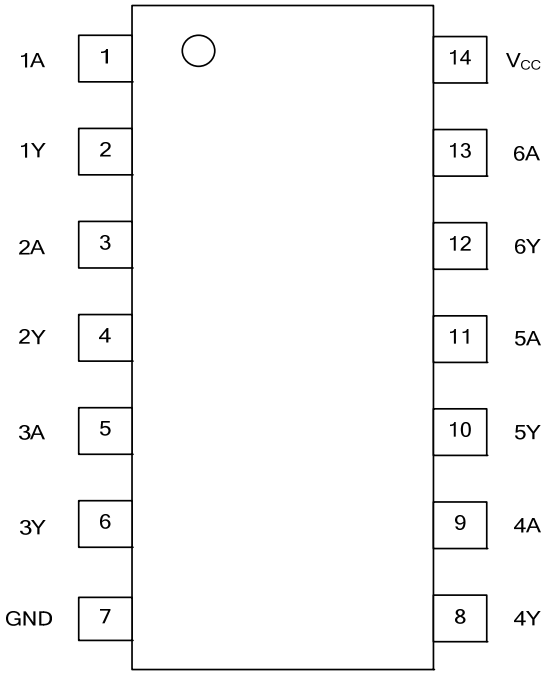
(1)Packing Type
(2)Package Type
(3)Halogen Free

(1) R: Tape Reel

(2) S14: SOP-14

(3) L: Lead Free, G:Halogen Free

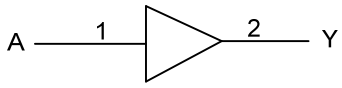
■ PIN CONFIGURATION



■ FUNCTION TABLE (each gate)

INPUT	OUTPUT
A	Y
L	L
H	H

■ LOGIC DIAGRAM (positive logic)



IEC logic symbol

■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)(Note 1)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.5~7	V
Input Voltage	V_{IN}	-0.5~7	V
Output Voltage(active mode)	V_{OUT}	-0.5~V_{CC}+0.5	V
Input Clamp Current(V_I<0)	I_{IK}	-20	mA
Output Clamp Current(V_O<0)	I_{OK}	±20	mA
Output Current	I_{OUT}	±25	mA
V_{CC} or GND Current	I_{CC}	±50	mA
Storage Temperature	T_{STG}	-65 ~ +150	°C

Note 1. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.
2. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING COMDITIONS

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}	Operating	4.5		5.5	V
Input Voltage	V_{IN}		0		5.5	V
Output Voltage	V_{OUT}		0		V_{CC}	V
High-level Output Current	I_{OH}	V_{CC}=4.5V			-8	mA
Low-level Output Current	I_{OL}	V_{CC}=4.5V			8	mA
Operating Temperature	T_A		-40		+85	°C

■ STATIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Positive-Going Input Threshold Voltage	V_{IH}	V_{CC} =4.5V	2			V
		V_{CC} =5.5V	2			
Negative-Going Input Threshold Voltage	V_{IL}	V_{CC} =4.5V			0.8	V
		V_{CC} =5.5V			0.8	
High-Level Output Voltage	V_{OH}	V_{CC} =4.5V, I_{OH}=-50μA	4.4			V
		V_{CC} =4.5V, I_{OH}=-8mA	3.94			
Low-Level Output Voltage	V_{OL}	V_{CC} =4.5V, I_{OL}=50μA			0.1	V
		V_{CC} =4.5V, I_{OL}=8mA			0.36	
Input Leakage Current	I_I	V_{CC} =0V ~ 5.5V, V_I=V_{CC} or GND			±0.1	μA
Quiescent Supply Current	I_{CC}	V_{CC} = 5.5V, V_I=5.5V or GND, I_O=0			2	μA
Additional Quiescent Supply Current	ΔI_{CC}	V_{CC} = 5.5V, One input at 3.4V, other inputs at V_{CC} or GND			1.35	mA
Input Capacitance	C_I	V_{CC} =3.3V, V_I=V_{CC} or GND		4	10	pF

■ DYNAMIC CHARACTERISTICS (Input: t_R, t_F≤3ns; PRR≤1MHz)

See Fig. 1 and Fig. 2 for test circuit and waveforms.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Propagation delay from input (A) to output(Y)	t_{PLH}/t_{PHL}	V_{CC}=5V±0.5V, C_L =15pF		4.7	6.7	ns
		V_{CC}=5V±0.5V, C_L =50pF		5.5	7.7	

■ OPERATING CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance	Cpd	No load, f=1MHz, V_{CC}=5V		14		pF

■ TEST CIRCUIT AND WAVEFORMS

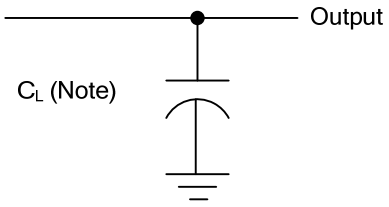


Fig. 1 Load circuitry for switching times.

Note: C_L includes probe and jig capacitance.

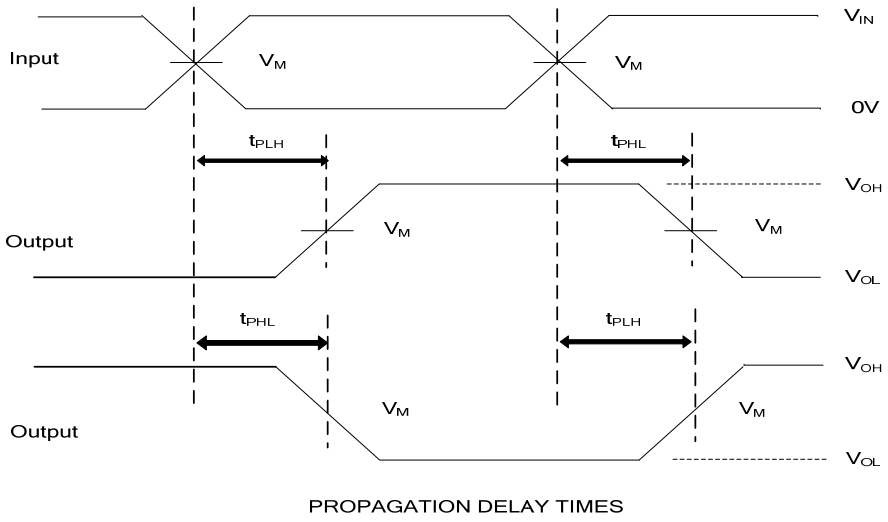


Fig. 2 Propagation delay from input(A) to output(Y) and Output transition time.