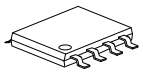
U74AHC3G34

CMOS IC

TRIPLE BUFFER GATE



TSSOP-8

■ DESCRIPTION

The **UTC U74AHC3G34** are high-speed Si-gate CMOS devices, which provide three buffers with the function Y=A.

■ FEATURES

* Low Power Dissipation
* Symmetrical Output Impedance
* Balanced Propagation Delays
* High Noise Immunity

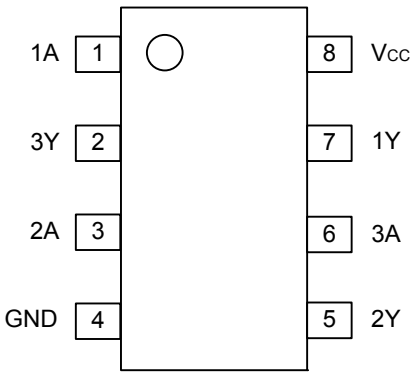
■ ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74AHC3G34L-P08-R	U74AHC3G34G-P08-R	TSSOP-8	Tape Reel
U74AHC3G34L-P08-T	U74AHC3G34G-P08-T	TSSOP-8	Tube

U74HCT3G34L-P08-R
- (1)Packing Type
- (2)Package Type
- (3)Lead Free

(1) R: Tape Reel, T: Tube
(2) P08: TSSOP-8
(3) G:Halogen Free, L: Lead Free

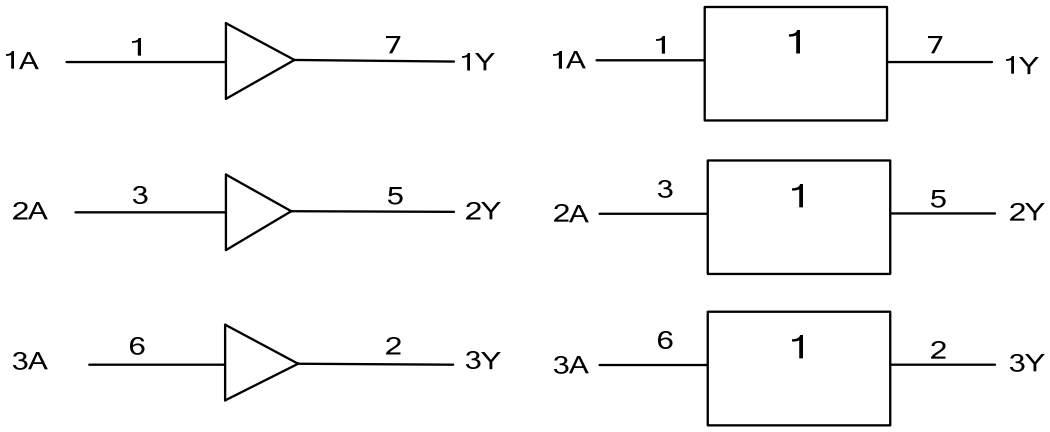
■ PIN CONFIGURATION



■ FUNCTION TABLE (each gate)

INPUT(A)	OUTPUT(Y)
L	L
H	H

■ LOGIC DIAGRAM (positive logic)



■ ABSOLUTE MAXIMUM RATING(unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.5 ~ 7.0	V
Input Voltage	V_{IN}	-0.5 ~ 7.0	V
Output Voltage	V_{OUT}	-0.5 ~ V_{CC} +0.5	V
V_{CC} or GND Current	I_{CC}	±75	mA
Output Current	I_{OUT}	±25	mA
Input Clamp Current	I_{IK}	-20	mA
Output Clamp Current	I_{OK}	±20	mA
Operating Temperature	T_{OPR}	-40 ~ + 85	℃
Storage Temperature	T_{STG}	-65 ~ + 150	℃

Note: 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 CONDITIONS

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}		2.0	5.0	5.5	V
Input Voltage	V_{IN}		0		5.5	V
Output Voltage	V_{OUT}		0		V_{CC}	V
Input Rise or Fall Times	t_R, t_F	V_{CC} = 3.3 ± 0.3V			100	ns/V
		V_{CC} = 5.0 ± 0.5V			20	

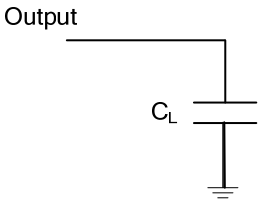
■ ELECTRICAL CHARACTERISTICS (T_A=25°C,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
High-Level input voltage	V_{IH}	V_{CC}= 2V	1.5			V
		V_{CC}= 3V	2.1			
		V_{CC}= 5.5V	3.85			
Low-Level input voltage	V_{IL}	V_{CC}= 2V			0.5	V
		V_{CC}= 3V			0.9	
		V_{CC}= 5.5V			1.65	
High-Level Output Voltage	V_{OH}	V_I = V_{IH} or V_{IL}, I_{OH} = -50μA, V_{CC}= 2V	1.9	2.0		V
		V_I = V_{IH} or V_{IL}, I_{OH} = -50μA, V_{CC}= 3V	2.9	3.0		
		V_I = V_{IH} or V_{IL}, I_{OH} = -50μA, V_{CC}= 4.5V	4.4	4.5		
		V_I = V_{IH} or V_{IL}, I_{OH} = -4.0mA, V_{CC}= 3V	2.58			
		V_I = V_{IH} or V_{IL}, I_{OH} = -8.0mA, V_{CC}= 4.5V	3.94			
Low-Level Output Voltage	V_{OL}	V_I = V_{IH} or V_{IL}, I_{OH} = 50μA, V_{CC}= 2V			0.1	V
		V_I = V_{IH} or V_{IL}, I_{OH} = 50μA, V_{CC}= 3V			0.1	
		V_I = V_{IH} or V_{IL}, I_{OH} = 50μA, V_{CC}= 4.5V			0.1	
		V_I = V_{IH} or V_{IL}, I_{OH} = 4.0mA, V_{CC}= 3V			0.36	
		V_I = V_{IH} or V_{IL}, I_{OH} = 8.0mA, V_{CC}= 4.5V			0.36	
Input Leakage Current	$I_{I(LEAK)}$	V_{IN}=V_{CC} or GND, V_{CC}= 5.5V			0.1	μA
Quiescent Supply Current	I_{CC}	V_{IN}=V_{CC} or GND, I_{OUT}=0, V_{CC}= 5.5V			10	μA
Input Capacitance	C_{IN}	V_{IN}=V_{CC} or GND		1.5	10	pF

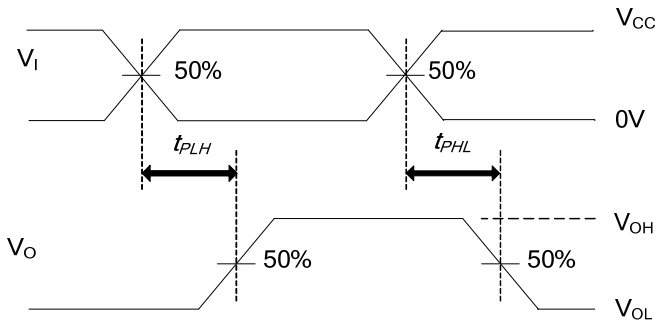
■ SWITCHING CHARACTERISTICS (T_A=25°C,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Propagation delay from input (A) to output(Y)	t_{PLH} t_{PHL}	C_L =15 pF	V_{CC} =3.0 to 3.6 V		4.3	7.1	ns
			V_{CC} =4.5 to 5.5 V		3.1	5.5	
		C_L =50 pF	V_{CC} =3.0 to 3.6 V		6.1	10.6	ns
			V_{CC} =4.5 to 5.5 V		4.5	7.5	

■ TEST CIRCUIT AND WAVEFORMS



Definitions for test circuit



Propagation Delay Times

Note: C_L includes probe and jig capacitance.
P_{RR} ≤1MHz, Z_O = 50Ω, t_R ≤3ns, t_F ≤3ns.