



# U74AHC3G34

**CMOS IC**

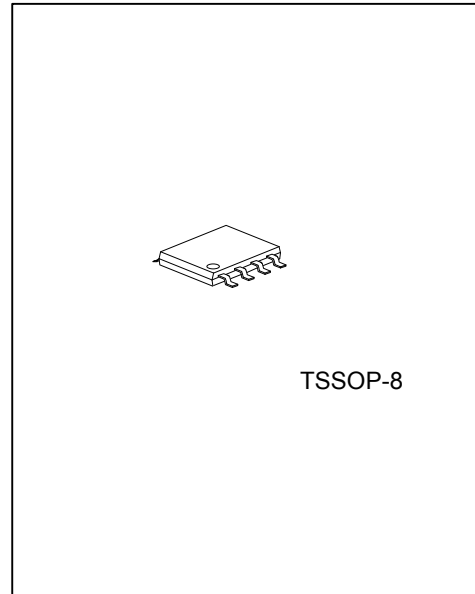
## TRIPLE BUFFER GATE

■ 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

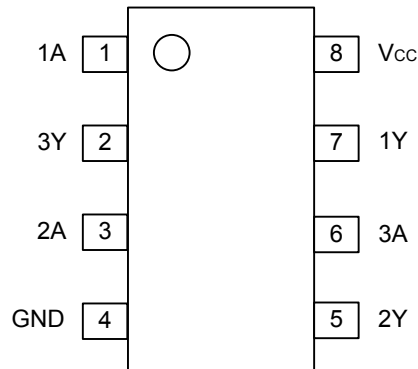


■ ORDERING INFORMATION

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

<p>U74HCT3G34L-P08-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Free</p>	<p>(1) R: Tape Reel, T: Tube (2) P08: TSSOP-8 (3) G:Halogen Free, L: Lead Free</p>
--	--

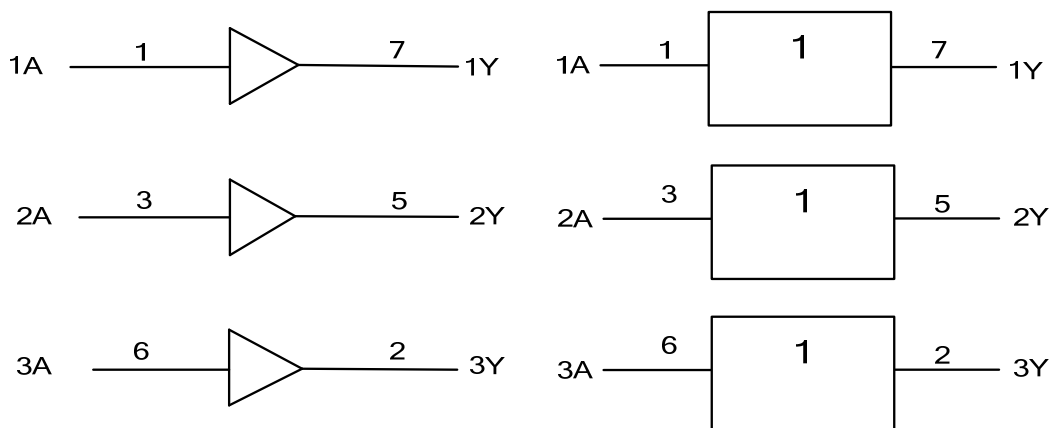
■ PIN CONFIGURATION



■ 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	°C
Storage Temperature	$T_{STG}$	-65 ~ + 150	°C

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	$t_R, t_F$	$V_{CC} = 3.3 \pm 0.3V$			100	ns/V
		$V_{CC} = 5.0 \pm 0.5V$			20	

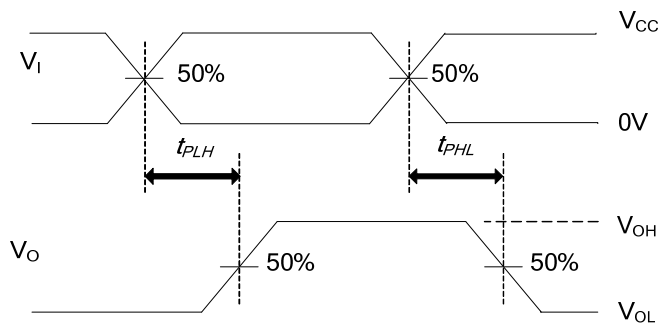
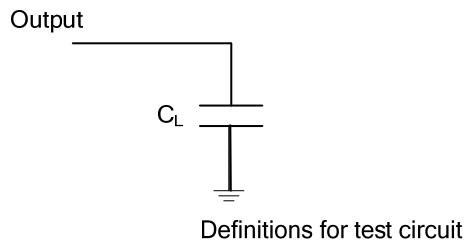
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ C$ , unless otherwise specified)

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 $V_{IL}, I_{OH} = -50\mu A, V_{CC} = 2V$	1.9	2.0		V
		$V_I = V_{IH}$ or $V_{IL}, I_{OH} = -50\mu A, V_{CC} = 3V$	2.9	3.0		
		$V_I = V_{IH}$ or $V_{IL}, I_{OH} = -50\mu A, V_{CC} = 4.5V$	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 $V_{IL}, I_{OH} = 50\mu A, V_{CC} = 2V$			0.1	V
		$V_I = V_{IH}$ or $V_{IL}, I_{OH} = 50\mu A, V_{CC} = 3V$			0.1	
		$V_I = V_{IH}$ or $V_{IL}, I_{OH} = 50\mu A, V_{CC} = 4.5V$			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 ( $T_A=25^\circ C$ , unless otherwise specified)

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



Propagation Delay Times

Note:  $C_L$  includes probe and jig capacitance.  
 $P_{RR} \leq 1\text{MHz}$ ,  $Z_O = 50\Omega$ ,  $t_R \leq 3\text{ns}$ ,  $t_F \leq 3\text{ns}$ .

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.