



# U74HCT3G34

CMOS IC

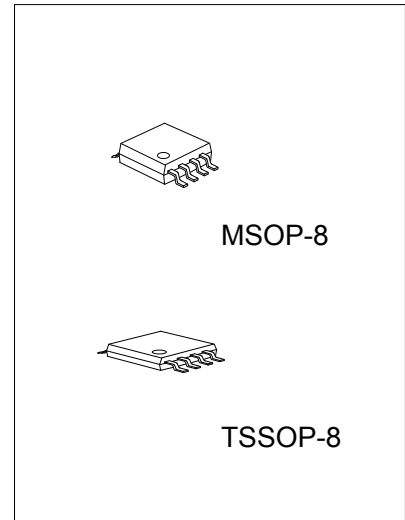
## TRIPLE BUFFER GATE

### DESCRIPTION

The U74HCT3G34 provides three buffers, it is compatible with TTL.

### FEATURES

- \* Low power dissipation
- \* High speed
- \* High noise immunity

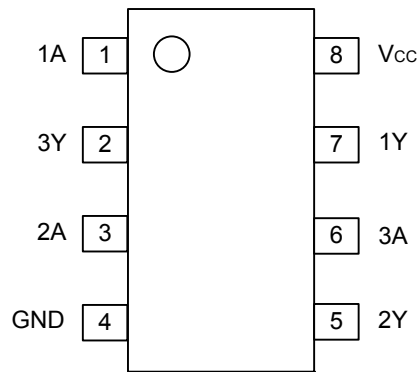


### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74HCT3G34L-P08-R	U74HCT3G34G-P08-R	TSSOP-8	Tape Reel
U74HCT3G34L-SM1-R	U74HCT3G34G-SM1-R	MSOP-8	Tape Reel

<p>U74HCT3G34L-P08-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Free</p>	<p>(1) R: Tape Reel (2) P08: TSSOP-8, SM1: MSOP-8 (3) G:Halogen Free, L: Lead Free</p>
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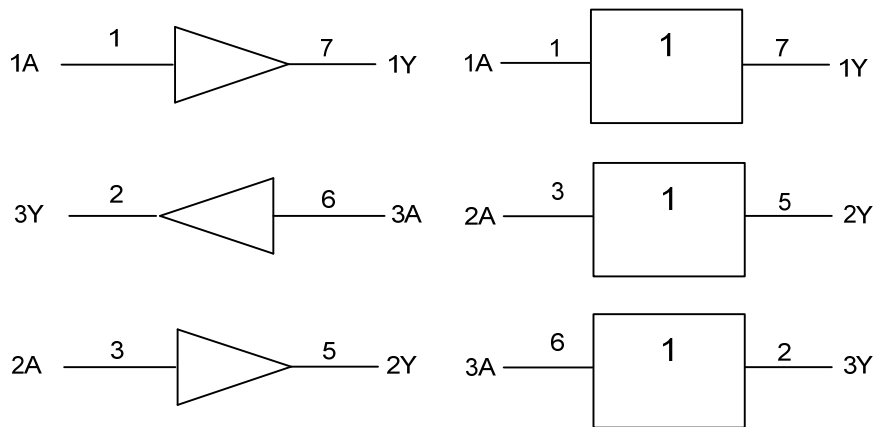
■ PIN CONFIGURATION



■ FUNCTION TABLE (each gate)

INPUT	OUTPUT
A	Y
L	L
H	H

■ LOGIC DIAGRAM (positive logic)



## ■ ABSOLUTE MAXIMUM RATINGS (unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V_{CC}$	-0.5~7	V
Output Voltage	$V_{OUT}$	-0.5~ $V_{CC}+0.5$	V
Output Current	$I_{OUT}$	25	mA
$V_{CC}$ or GND Current	$I_{CC}$	50	mA
Input Clamp Current	$I_{IK}$	$\pm 20$	mA
Output Clamp Current	$I_{OK}$	$\pm 20$	mA
Power Dissipation	$P_D$	300	mW
Storage Temperature	$T_{STG}$	-65 ~ +150	$^{\circ}C$

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	$V_{CC}$		4.5	5.0	5.5	V
Input Voltage	$V_{IN}$		0		$V_{CC}$	V
Output Voltage	$V_{OUT}$		0		$V_{CC}$	V
Input Rise and Fall Times	$t_R, t_F$	$V_{CC}=4.5V$		6.0	500	ns
Operating Temperature	$T_A$		-40		+125	$^{\circ}C$

## ■ STATIC CHARACTERISTICS ( $T_A=25^{\circ}C$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
High-Level Input Voltage	$V_{IH}$	$V_{CC}=4.5V\sim 5.5V$	2.0	1.6		V
Low-Level Input Voltage	$V_{IL}$	$V_{CC}=4.5V\sim 5.5V$		1.2	0.8	V
High-Level Output Voltage	$V_{OH}$	$V_{CC}=4.5V, I_{OH}=-20\mu A$	4.4	4.5		V
		$V_{CC}=4.5V, I_{OH}=-4.0mA$	4.13	4.32		V
Low-Level Output Voltage	$V_{OL}$	$V_{CC}=4.5V, I_{OL}=20\mu A$		0	0.1	V
		$V_{CC}=4.5V, I_{OL}=4.0mA$		0.15	0.33	V
Input Leakage Current	$I_{I(LEAK)}$	$V_{CC}=5.5V, V_{IN}=V_{CC}$ or GND			$\pm 1.0$	$\mu A$
Quiescent Supply Current	$I_Q$	$V_{CC}=5.5V, I_{OUT}=0, V_{IN}=V_{CC}$ or GND			10	$\mu A$
Additional Quiescent Supply Current	$\Delta I_Q$	$V_{CC}=5.5V, V_{IN}=V_{CC}-2.1V; I_{OUT}=0$			375	$\mu A$
Input Capacitance	$C_{IN}$			1.5		pF

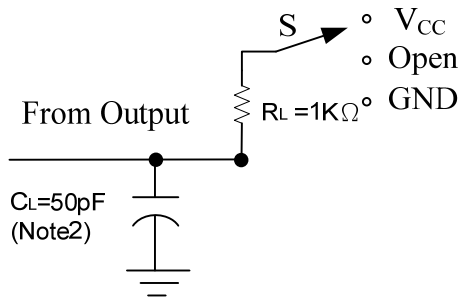
## ■ DYNAMIC CHARACTERISTICS ( $T_A=25^{\circ}C, t_R, t_F \leq 6.0ns$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Propagation Delay From nA to nY	$t_{PHL}/t_{PLH}$	$V_{CC}=4.5V, C_L=50pF$		10	23	ns
Output Transition Time	$t_{THL}/t_{TLH}$	$V_{CC}=4.5V, C_L=50pF$		6	19	ns

## ■ OPERATING CHARACTERISTICS

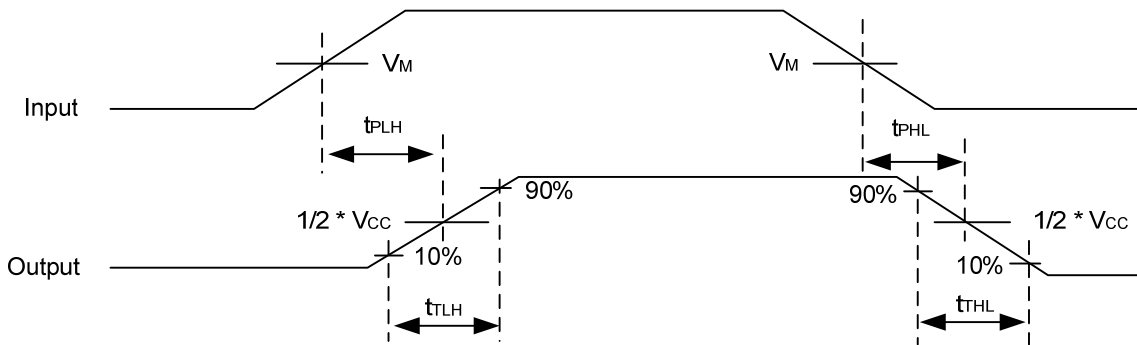
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance per Gate	$C_{pd}$			9		pF

## ■ T TEST CIRCUIT AND WAVEFORMS



TEST	S
$t_{PLH}/t_{PHL}$	Open
$t_{PHZ}/t_{PZH}$	GND
$t_{PLZ}/t_{PZL}$	V <sub>CC</sub>

Note: C<sub>L</sub> includes probe and jig capacitance.



V<sub>M</sub>=1.3V, Input=GND to 3.0V

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