



U74HCT3G34

CMOS IC

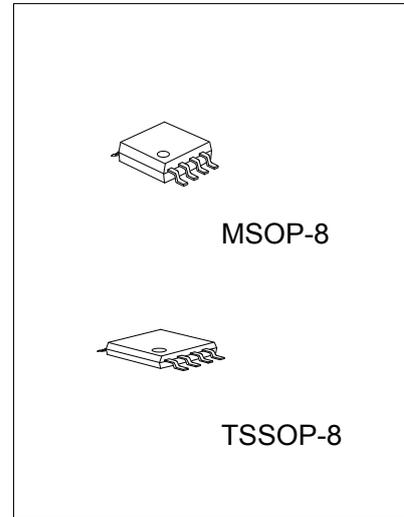
TRIPLE BUFFER GATE

DESCRIPTION

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

FEATURES

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

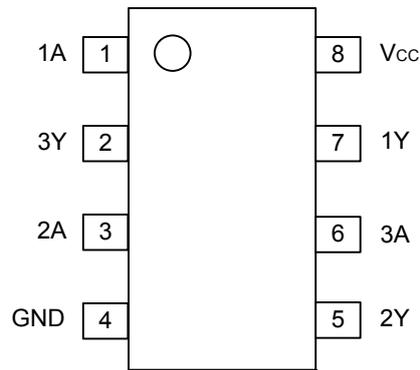


ORDERING INFORMATION

| 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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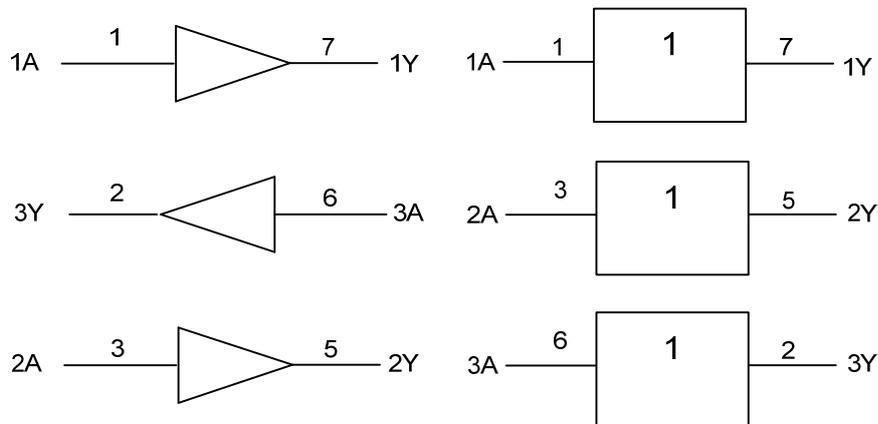
■ PIN CONFIGURATION



■ 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} | ± 20 | mA |
| Output Clamp Current | I_{OK} | ± 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 | | | ± 1.0 | μA |
| Quiescent Supply Current | I_Q | $V_{CC}=5.5V, I_{OUT}=0, V_{IN}=V_{CC}$ or GND | | | 10 | μA |
| Additional Quiescent Supply Current | ΔI_Q | $V_{CC}=5.5V, V_{IN}=V_{CC}-2.1V; I_{OUT}=0$ | | | 375 | μA |
| Input Capacitance | C_{IN} | | | 1.5 | | pF |

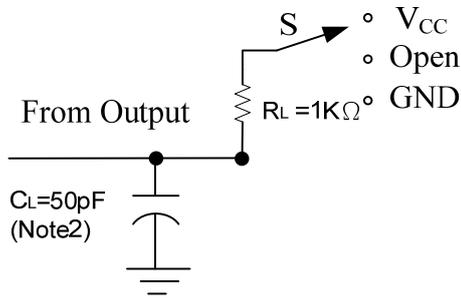
■ DYNAMIC CHARACTERISTICS ($T_A=25^{\circ}C, t_R, t_F\leq 6.0ns$)

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

■ OPERATING CHARACTERISTICS

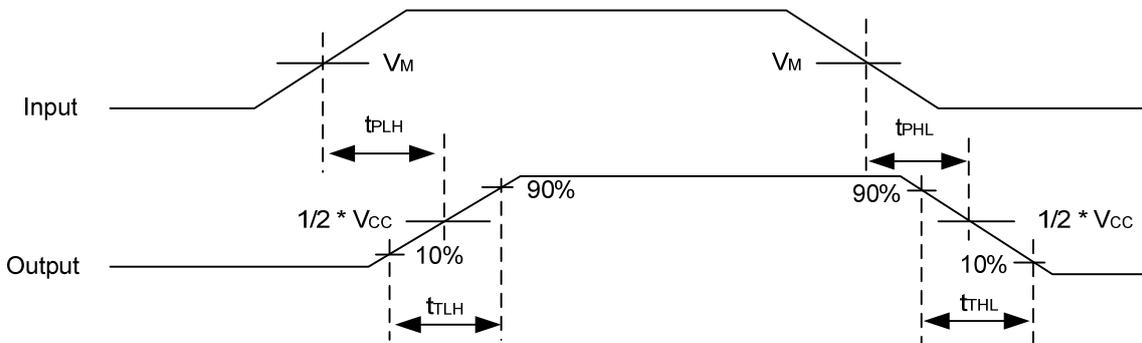
| PARAMETER | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|--|----------|----------------|-----|-----|-----|------|
| Power Dissipation Capacitance per Gate | C_{pd} | | | 9 | | pF |

■ T TEST CIRCUIT AND WAVEFORMS



| TEST | S |
|-------------------|----------|
| t_{PLH}/t_{PHL} | Open |
| t_{PHZ}/t_{PZH} | GND |
| t_{PLZ}/t_{PZL} | V_{CC} |

Note: C_L includes probe and jig capacitance.



$V_M=1.3V, Input=GND\ to\ 3.0V$

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