



AiP74AHC74/AHCT74

Dual D Type Flip-Flop with Set and Reset; Positive-Edge Trigger

Product Specification

Specification Revision History:

| Version | Date | Description |
|------------|---------|-----------------------|
| 2025-08-A0 | 2025-08 | New |
| 2025-12-A1 | 2025-12 | Modify the parameters |
| | | |
| | | |



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1、General Description

The AiP74AHC/AHCT74 is a dual positive-edge triggered, D-type flip-flop with individual data inputs (D), clock inputs (CP), set inputs (\overline{SD}) and reset (\overline{RD}). It also has complementary outputs (Q and \overline{Q}).

The set and reset are asynchronous active LOW inputs that operate independent of the clock input. Information on the data input is transferred to the Q output on the LOW to HIGH transition of the clock pulse. The data inputs must be stable one set-up time prior to the LOW to HIGH clock transition for predictable operation.

Schmitt-trigger action in the clock input makes the circuit highly tolerant to slower clock rise and fall times.

Features:

- Supply voltage range:
AiP74AHC74: 2.0V to 5.5V
AiP74AHCT74: 4.5V to 5.5V
- Input levels:
AiP74AHC74: CMOS level
AiP74AHCT74: TTL level
- Temperature range: -40°C to +125°C
- Packaging information: DIP14/SOP14/TSSOP14



Ordering Information:

Tube packing specifications:

| Part number | Packaging form | Marking code | Tube quantity | Boxed tube quantity | Boxed quantity | Notes |
|--------------------|----------------|--------------|---------------|---------------------|----------------|--|
| AiP74AHC74DA14.TB | DIP14 | 74AHC74 | 25 PCS/tube | 40 tube/box | 1000 PCS/box | Dimensions of plastic enclosure: 19.0mm×6.4mm Pin spacing: 2.54mm |
| AiP74AHCT74DA14.TB | DIP14 | 74AHCT74 | 25 PCS/tube | 40 tube/box | 1000 PCS/box | Dimensions of plastic enclosure: 19.0mm×6.4mm Pin spacing: 2.54mm |

Reel packing specifications:

| Part number | Packaging form | Marking code | Reel quantity | Boxed reel quantity | Notes |
|--------------------|----------------|--------------|---------------|---------------------|---|
| AiP74AHC74SA14.TR | SOP14 | 74AHC74 | 4000PCS/reel | 8000PCS/box | Dimensions of plastic enclosure: 8.7mm×3.9mm Pin spacing: 1.27mm |
| AiP74AHC74TA14.TR | TSSOP14 | 74AHC74 | 5000PCS/reel | 10000PCS/box | Dimensions of plastic enclosure: 5.0mm×4.4mm Pin spacing: 0.65mm |
| AiP74AHCT74SA14.TR | SOP14 | 74AHCT74 | 4000PCS/reel | 8000PCS/box | Dimensions of plastic enclosure: 8.7mm×3.9mm Pin spacing: 1.27mm |
| AiP74AHCT74TA14.TR | TSSOP14 | 74AHCT74 | 5000PCS/reel | 10000PCS/box | Dimensions of plastic enclosure: 5.0mm×4.4mm Pin spacing: 0.65mm |

Note: If the physical information is inconsistent with the ordering information, please refer to the actual product.



2、Block Diagram And Pin Description

2.1、Block Diagram

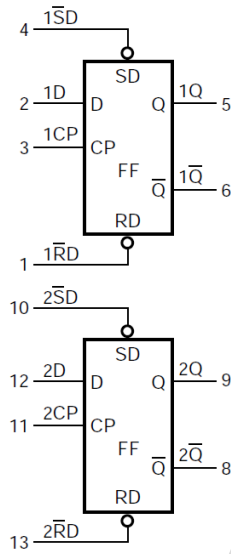


Figure 1. Logic symbol

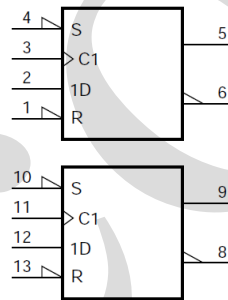


Figure 2. IEC logic symbol

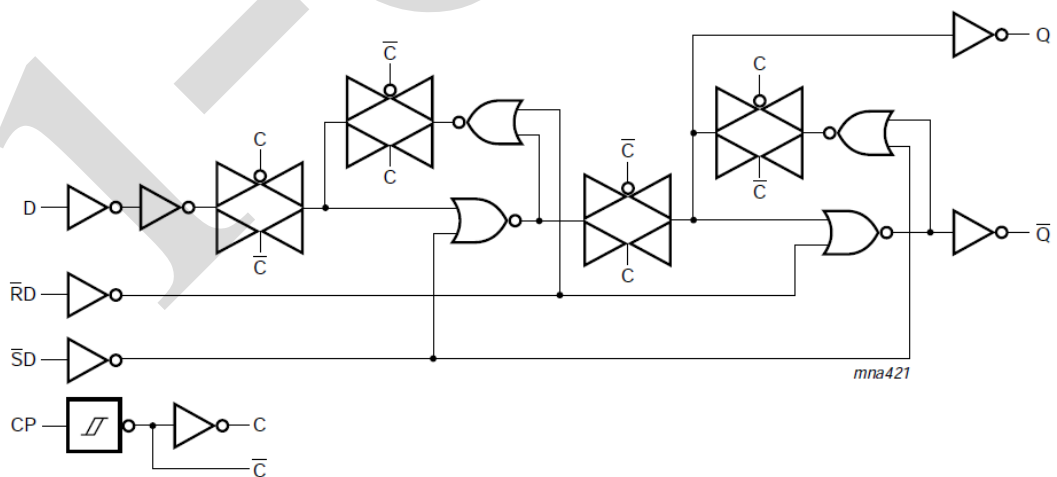
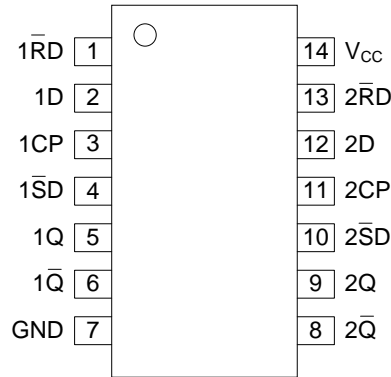


Figure 3. Logic diagram (one flip-flop)



2.2、Pin Configurations



2.3、Pin Description

| Pin No. | Pin Name | Description |
|---------|-----------------|--|
| 1 | 1RD | asynchronous reset direct input (active LOW) |
| 2 | 1D | data input |
| 3 | 1CP | clock input (LOW to HIGH, edge-triggered) |
| 4 | 1SD | asynchronous set direct input (active LOW) |
| 5 | 1Q | true flip-flop output |
| 6 | 1Q | complement flip-flop output |
| 7 | GND | ground (0V) |
| 8 | 2Q | complement flip-flop output |
| 9 | 2Q | true flip-flop output |
| 10 | 2SD | asynchronous set direct input (active LOW) |
| 11 | 2CP | clock input (LOW to HIGH, edge-triggered) |
| 12 | 2D | data input |
| 13 | 2RD | asynchronous reset direct input (active LOW) |
| 14 | V _{CC} | supply voltage |

2.4、Function Table

| Control | | | Input | Output | | | |
|---------|-----|-----|-------|--------|----|-------------------|-------------------|
| nSD | nRD | nCP | nD | nQ | nQ | nQ _{n+1} | nQ _{n+1} |
| L | H | X | X | H | L | L | H |
| H | L | X | X | L | H | H | L |
| L | L | X | X | H | H | - | - |
| H | H | ↑ | L | - | - | L | H |
| H | H | ↑ | H | - | - | H | L |

Note:

H = HIGH voltage level;

L = LOW voltage level;

X = Don't care;

↑ = LOW to HIGH transition;

Q_{n+1} = state after the next LOW to HIGH CP transition.



3、Electrical Parameter

3.1、Absolute Maximum Ratings

(Voltages are referenced to GND (ground=0V), unless otherwise specified.)

| Parameter | Symbol | Conditions | Min. | Max. | Unit |
|-------------------------|-----------|--------------------------------------|-----------|----------|-------------|
| supply voltage | V_{CC} | - | -0.5 | +7 | V |
| supply current | I_{CC} | - | - | 50 | mA |
| ground current | I_{GND} | - | -50 | - | mA |
| input clamping current | I_{IK} | $V_I < -0.5V$ | - | ± 20 | mA |
| output clamping current | I_{OK} | $V_O < -0.5V$ or $V_O > V_{CC}+0.5V$ | - | ± 20 | mA |
| output current | I_O | $-0.5V < V_O < V_{CC}+0.5V$ | - | ± 25 | mA |
| storage temperature | T_{stg} | - | -65 | +150 | $^{\circ}C$ |
| soldering temperature | T_L | 10s | DIP | | $^{\circ}C$ |
| | | | SOP/TSSOP | | |
| Electrostatic discharge | ESD | HBM | 3000 | | V |

3.2、Recommended Operating Conditions

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|---------------------|-----------|------------|------|------|----------|-------------|
| AiP74AHC74 | | | | | | |
| supply voltage | V_{CC} | - | 2.0 | 5.0 | 5.5 | V |
| input voltage | V_I | - | 0 | - | V_{CC} | V |
| output voltage | V_O | - | 0 | - | V_{CC} | V |
| ambient temperature | T_{amb} | - | -40 | - | +125 | $^{\circ}C$ |
| AiP74AHCT74 | | | | | | |
| supply voltage | V_{CC} | - | 4.5 | 5.0 | 5.5 | V |
| input voltage | V_I | - | 0 | - | V_{CC} | V |
| output voltage | V_O | - | 0 | - | V_{CC} | V |
| ambient temperature | T_{amb} | - | -40 | - | +125 | $^{\circ}C$ |



3.3、Electrical Characteristics

3.3.1、DC Characteristics 1

($T_{amb} = -40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified.)

| Parameter | Symbol | V _{CC} | Conditions | Min. | Typ. | Max. | Unit |
|---------------------------|------------------|-----------------|---|------|------|------|------|
| AiP74AHC74 | | | | | | | |
| HIGH-level input voltage | V _{IH} | 2.0V | - | 1.5 | - | - | V |
| | | 3.0V | - | 2.1 | - | - | V |
| | | 5.5V | - | 3.85 | - | - | V |
| LOW-level input voltage | V _{IL} | 2.0V | - | - | - | 0.5 | V |
| | | 3.0V | - | - | - | 0.9 | V |
| | | 5.5V | - | - | - | 1.65 | V |
| HIGH-level output voltage | V _{OH} | 2.0V | I _O =-50uA | 1.9 | 2.0 | - | V |
| | | 3.0V | I _O =-50uA | 2.9 | 3.0 | - | V |
| | | 4.5V | I _O =-50uA | 4.4 | 4.5 | - | V |
| | | 3.0V | I _O =-4.0mA | 2.48 | - | - | V |
| | | 4.5V | I _O =-8.0mA | 3.8 | - | - | V |
| LOW-level output voltage | V _{OL} | 2.0V | I _O =50uA | - | 0 | 0.1 | V |
| | | 3.0V | I _O =50uA | - | 0 | 0.1 | V |
| | | 4.5V | I _O =50uA | - | 0 | 0.1 | V |
| | | 3.0V | I _O =4.0mA | - | - | 0.44 | V |
| | | 4.5V | I _O =8.0mA | - | - | 0.44 | V |
| input leakage current | I _I | 0V to 5.5V | V _I =5.5V or GND | - | - | ±2 | uA |
| supply current | I _{CC} | 5.5V | V _I =V _{CC} or GND; I _O =0A | - | - | 20 | uA |
| AiP74AHCT74 | | | | | | | |
| HIGH-level input voltage | V _{IH} | 4.5V to 5.5V | - | 2.0 | 1.6 | - | V |
| LOW-level input voltage | V _{IL} | 4.5V to 5.5V | - | - | 1.2 | 0.8 | V |
| HIGH-level output voltage | V _{OH} | 4.5V | I _O =-50uA | 4.4 | 4.5 | - | V |
| | | | I _O =-8.0mA | 3.8 | - | - | V |
| LOW-level output voltage | V _{OL} | 4.5V | I _O =50uA | - | - | 0.1 | V |
| | | | I _O =8.0mA | - | - | 0.44 | V |
| input leakage current | I _I | 0V to 5.5V | V _I =V _{CC} or GND | - | - | ±2 | uA |
| supply current | I _{CC} | 5.5V | V _I =V _{CC} or GND; I _O =0A | - | - | 20 | uA |
| additional supply current | ΔI _{CC} | 4.5V to 5.5V | One input at V _{CC} -2.1V; Other inputs at V _{CC} or GND; I _O =0A | - | - | 1.5 | mA |



3.3.2、DC Characteristics 2

($T_{amb}=-40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified.)

| Parameter | Symbol | V _{CC} | Conditions | Min. | Typ. | Max. | Unit |
|---------------------------|------------------|-----------------|---|------|------|------|------|
| AiP74AHCT74 | | | | | | | |
| HIGH-level input voltage | V _{IH} | 2.0V | - | 1.5 | - | - | V |
| | | 3.0V | - | 2.1 | - | - | V |
| | | 5.5V | - | 3.85 | - | - | V |
| LOW-level input voltage | V _{IL} | 2.0V | - | - | - | 0.5 | V |
| | | 3.0V | - | - | - | 0.9 | V |
| | | 5.5V | - | - | - | 1.65 | V |
| HIGH-level output voltage | V _{OH} | 2.0V | I _O =-50uA | 1.9 | - | - | V |
| | | 3.0V | I _O =-50uA | 2.9 | - | - | V |
| | | 4.5V | I _O =-50uA | 4.4 | - | - | V |
| | | 3.0V | I _O =-4.0mA | 2.48 | - | - | V |
| | | 4.5V | I _O =-8.0mA | 3.8 | - | - | V |
| LOW-level output voltage | V _{OL} | 2.0V | I _O =50uA | - | - | 0.1 | V |
| | | 3.0V | I _O =50uA | - | - | 0.1 | V |
| | | 4.5V | I _O =50uA | - | - | 0.1 | V |
| | | 3.0V | I _O =4.0mA | - | - | 0.44 | V |
| | | 4.5V | I _O =8.0mA | - | - | 0.44 | V |
| input leakage current | I _I | 0V to 5.5V | V _I =5.5V or GND | - | - | ±4 | uA |
| supply current | I _{CC} | 5.5V | V _I =V _{CC} or GND; I _O =0A | - | - | 40 | uA |
| AiP74AHCT74 | | | | | | | |
| HIGH-level input voltage | V _{IH} | 4.5V to 5.5V | - | 2.0 | - | - | V |
| LOW-level input voltage | V _{IL} | 4.5V to 5.5V | - | - | - | 0.8 | V |
| HIGH-level output voltage | V _{OH} | 4.5V | I _O =-50uA | 4.4 | - | - | V |
| | | | I _O =-8.0mA | 3.8 | - | - | V |
| LOW-level output voltage | V _{OL} | 4.5V | I _O =50uA | - | - | 0.1 | V |
| | | | I _O =8.0mA | - | - | 0.44 | V |
| input leakage current | I _I | 4.5V to 5.5V | V _I =V _{CC} or GND | - | - | ±4 | uA |
| supply current | I _{CC} | 5.5V | V _I =V _{CC} or GND; I _O =0A | - | - | 40 | uA |
| additional supply current | ΔI _{CC} | 4.5V to 5.5V | One input at V _{CC} -2.1V; Other inputs at V _{CC} or GND; I _O =0A | - | - | 2 | mA |



3.3.3、AC Characteristics 1

($T_{amb} = -40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified.)

| Parameter | Symbol | V _{CC} | Conditions | Min. | Typ. | Max. | Unit | |
|--|-------------------------------------|-----------------|----------------------|-----------------------|------|------|------|-----|
| AiP74AHC74 | | | | | | | | |
| nCP to nQ, nQ; propagation delay | t _{PLH} , t _{PHL} | 3.0V to 3.6V | C _L =15pF | see Figure 5 | 1.0 | 5.2 | 14.0 | ns |
| | | | C _L =50pF | | 1.0 | 7.4 | 17.5 | ns |
| | | 4.5V to 5.5V | C _L =15pF | | 1.0 | 3.7 | 8.5 | ns |
| | | | C _L =50pF | | 1.0 | 5.2 | 10.5 | ns |
| nSD, nRD to nQ, nQ; propagation delay | t _{PLH} , t _{PHL} | 3.0V to 3.6V | C _L =15pF | see Figure 6 | 1.0 | 5.4 | 14.5 | ns |
| | | | C _L =50pF | | 1.0 | 7.7 | 18.0 | ns |
| | | 4.5V to 5.5V | C _L =15pF | | 1.0 | 3.7 | 9.0 | ns |
| | | | C _L =50pF | | 1.0 | 5.3 | 11.0 | ns |
| maximum frequency | f _{max} | 3.0V to 3.6V | C _L =15pF | see Figure 5 | 70 | 125 | - | MHz |
| | | | C _L =50pF | | 45 | 75 | - | MHz |
| | | 4.5V to 5.5V | C _L =15pF | | 110 | 170 | - | MHz |
| | | | C _L =50pF | | 75 | 115 | - | MHz |
| CP HIGH or LOW; nSD, nRD D LOW; pulse width | t _w | 3.0V to 3.6V | | see Figure 5 and 6 | 7.0 | - | - | ns |
| | | 4.5V to 5.5V | | | 5.0 | - | - | ns |
| nD to nCP; set-up time | t _{su} | 3.0V to 3.6V | | see Figure 5 | 7.0 | - | - | ns |
| | | 4.5V to 5.5V | | | 5.0 | - | - | ns |
| nD to nCP; set-up time | t _{th} | 3.0V to 3.6V | | see Figure 5 | 0.5 | - | - | ns |
| | | 4.5V to 5.5V | | | 0.5 | - | - | ns |
| nRD to nCP; recovery time | t _{rec} | 3.0V to 3.6V | | see Figure 6 | 5.0 | - | - | ns |
| | | 4.5V to 5.5V | | | 3.0 | - | - | ns |
| AiP74AHCT74 | | | | | | | | |
| nCP to nQ, nQ; propagation delay | t _{PLH} , t _{PHL} | 4.5V to 5.5V | C _L =15pF | see Figure 5 | 1.0 | 3.3 | 9.0 | ns |
| | | | C _L =50pF | | 1.0 | 4.8 | 10.0 | ns |
| nSD, nRD to nQ, nQ; propagation delay | t _{PLH} , t _{PHL} | 4.5V to 5.5V | C _L =15pF | see Figure 6 | 1.0 | 3.7 | 12.0 | ns |
| | | | C _L =50pF | | 1.0 | 5.3 | 13.0 | ns |
| maximum frequency | f _{max} | 4.5V to 5.5V | C _L =15pF | see Figure 5 | 80 | 160 | - | MHz |
| | | | C _L =50pF | | 65 | 140 | - | MHz |
| CP HIGH or LOW; nSD, nRD D LOW; pulse width | t _w | 4.5V to 5.5V | | see Figure 5 and 6 | 5.0 | - | - | ns |
| nD to nCP; set-up time | t _{su} | 4.5V to 5.5V | | see Figure 5 | 5.0 | - | - | ns |



| | | | | | | | |
|------------------------------|-----------|--------------|--------------|-----|---|---|----|
| nD to nCP; set-up time | t_h | 4.5V to 5.5V | see Figure 5 | 0 | - | - | ns |
| nRD to nCP; recovery time | t_{rec} | 4.5V to 5.5V | see Figure 6 | 3.5 | - | - | ns |

3.3.4、AC Characteristics 2

($T_{amb}=-40^{\circ}C$ to $+125^{\circ}C$, voltages are referenced to GND (ground=0V), unless otherwise specified.)

| Parameter | Symbol | V _{CC} | Conditions | Min. | Typ. | Max. | Unit | |
|--|--------------------|-----------------|------------|-----------------------|------|------|------|-----|
| AiP74AHC74 | | | | | | | | |
| nCP to nQ, nQ; propagation delay | t_{PLH}, t_{PHL} | 3.0V to 3.6V | $C_L=15pF$ | see Figure 5 | 1.0 | - | 15.0 | ns |
| | | | $C_L=50pF$ | | 1.0 | - | 19.5 | ns |
| | | 4.5V to 5.5V | $C_L=15pF$ | | 1.0 | - | 9.5 | ns |
| | | | $C_L=50pF$ | | 1.0 | - | 12.0 | ns |
| nSD, nRD to nQ, nQ; propagation delay | t_{PLH}, t_{PHL} | 3.0V to 3.6V | $C_L=15pF$ | see Figure 6 | 1.0 | - | 15.5 | ns |
| | | | $C_L=50pF$ | | 1.0 | - | 20.0 | ns |
| | | 4.5V to 5.5V | $C_L=15pF$ | | 1.0 | - | 10.0 | ns |
| | | | $C_L=50pF$ | | 1.0 | - | 12.5 | ns |
| maximum frequency | f_{max} | 3.0V to 3.6V | $C_L=15pF$ | see Figure 5 | 70 | - | - | MHz |
| | | | $C_L=50pF$ | | 45 | - | - | MHz |
| | | 4.5V to 5.5V | $C_L=15pF$ | | 110 | - | - | MHz |
| | | | $C_L=50pF$ | | 75 | - | - | MHz |
| CP HIGH or LOW; nSD, nRD D LOW; pulse width | t_w | 3.0V to 3.6V | | see Figure 5 and 6 | 7.0 | - | - | ns |
| | | 4.5V to 5.5V | | | 5.0 | - | - | ns |
| nD to nCP; set-up time | t_{su} | 3.0V to 3.6V | | see Figure 5 | 7.0 | - | - | ns |
| | | 4.5V to 5.5V | | | 5.0 | - | - | ns |
| nD to nCP; set-up time | t_h | 3.0V to 3.6V | | see Figure 5 | 0.5 | - | - | ns |
| | | 4.5V to 5.5V | | | 0.5 | - | - | ns |
| nRD to nCP; recovery time | t_{rec} | 3.0V to 3.6V | | see Figure 6 | 5.0 | - | - | ns |
| | | 4.5V to 5.5V | | | 3.0 | - | - | ns |
| AiP74AHCT74 | | | | | | | | |
| nCP to nQ, nQ; propagation delay | t_{PLH}, t_{PHL} | 4.5V to 5.5V | $C_L=15pF$ | see Figure 5 | 1.0 | - | 10.0 | ns |
| | | | $C_L=50pF$ | | 1.0 | - | 11.0 | ns |
| nSD, nRD to nQ, nQ; propagation delay | t_{PLH}, t_{PHL} | 4.5V to 5.5V | $C_L=15pF$ | see Figure 6 | 1.0 | - | 13.0 | ns |
| | | | $C_L=50pF$ | | 1.0 | - | 14.5 | ns |
| maximum frequency | f_{max} | 4.5V to 5.5V | $C_L=15pF$ | see Figure 5 | 80 | - | - | MHz |
| | | | $C_L=50pF$ | | 65 | - | - | MHz |
| CP HIGH or LOW; nSD, nRD | t_w | 4.5V to 5.5V | | see Figure 5 and 6 | 5.0 | - | - | ns |



| | | | | | | | |
|------------------------------|-----------|--------------|--------------|-----|---|---|----|
| D LOW; pulse width | | | | | | | |
| nD to nCP; set-up time | t_{su} | 4.5V to 5.5V | see Figure 5 | 5.0 | - | - | ns |
| nD to nCP; set-up time | t_h | 4.5V to 5.5V | see Figure 5 | 0 | - | - | ns |
| nRD to nCP; recovery time | t_{rec} | 4.5V to 5.5V | see Figure 6 | 3.5 | - | - | ns |

4、Testing Circuit

4.1、AC Testing Circuit

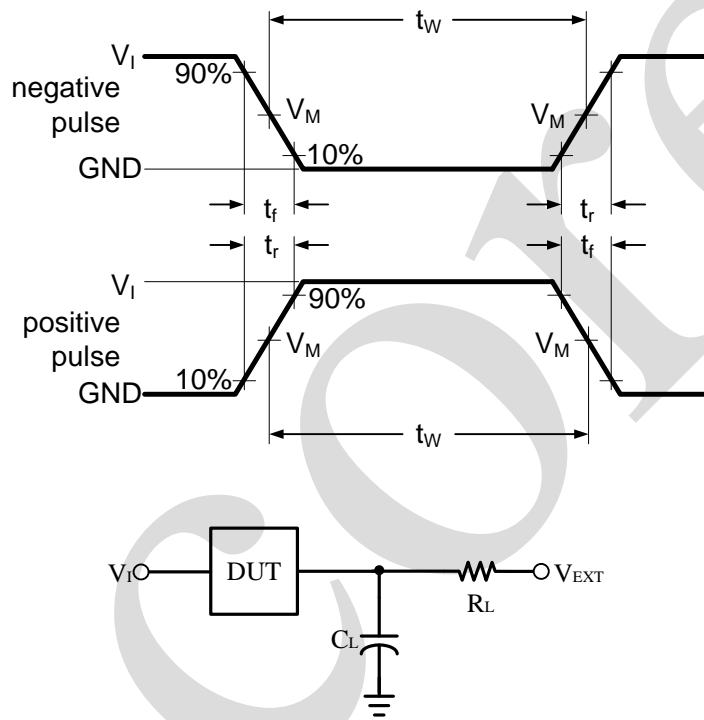


Figure 4. Test circuit for measuring switching times

C_L includes probe and jig capacitance.

4.2、Test Data

| Type | Input | | Load | | V_{EXT} | | |
|-------------|----------|-------------|------------|-------|-------------------|-------------------|-------------------|
| | V_I | $t_r = t_f$ | C_L | R_L | t_{PLH}/t_{PHL} | t_{PLZ}/t_{PZL} | t_{PHZ}/t_{PZH} |
| AiP74AHC74 | V_{CC} | 3.0ns | 15pF, 50pF | 1KΩ | Open | V_{CC} | GND |
| AiP74AHCT74 | 3.0V | 3.0ns | 15pF, 50pF | 1KΩ | Open | V_{CC} | GND |



4.3、AC Testing Waveforms

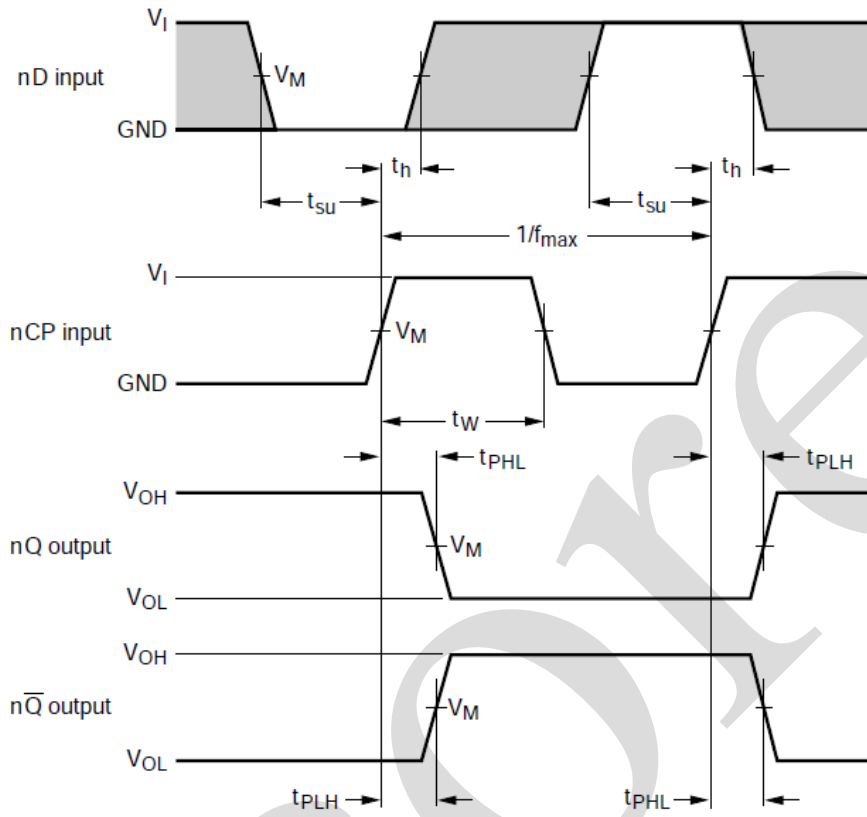


Figure 5. Clock pulse width, maximum frequency, set-up time hold times and input to output propagation delays

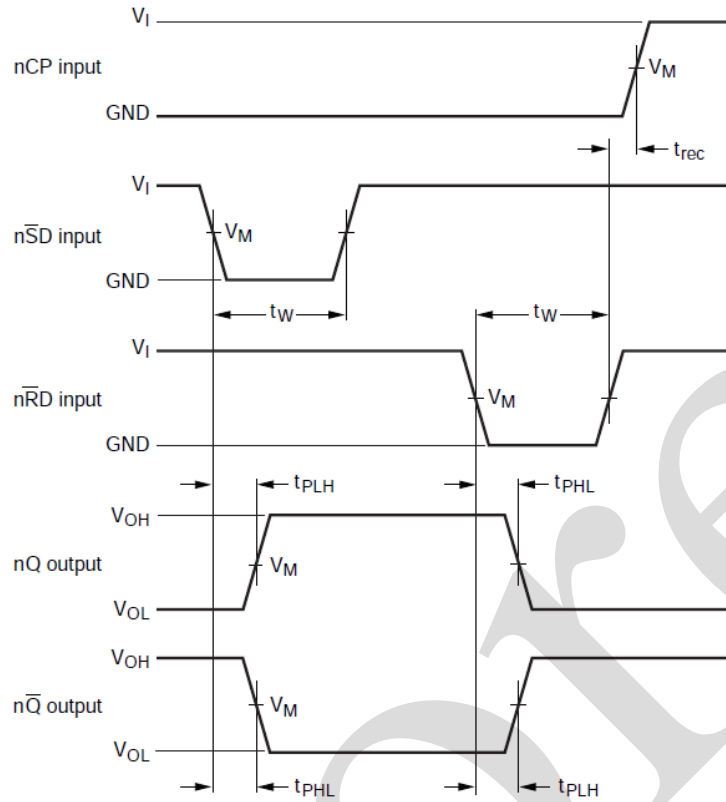


Figure 6. Set and reset pulse widths, recovery time and input to output propagation delays

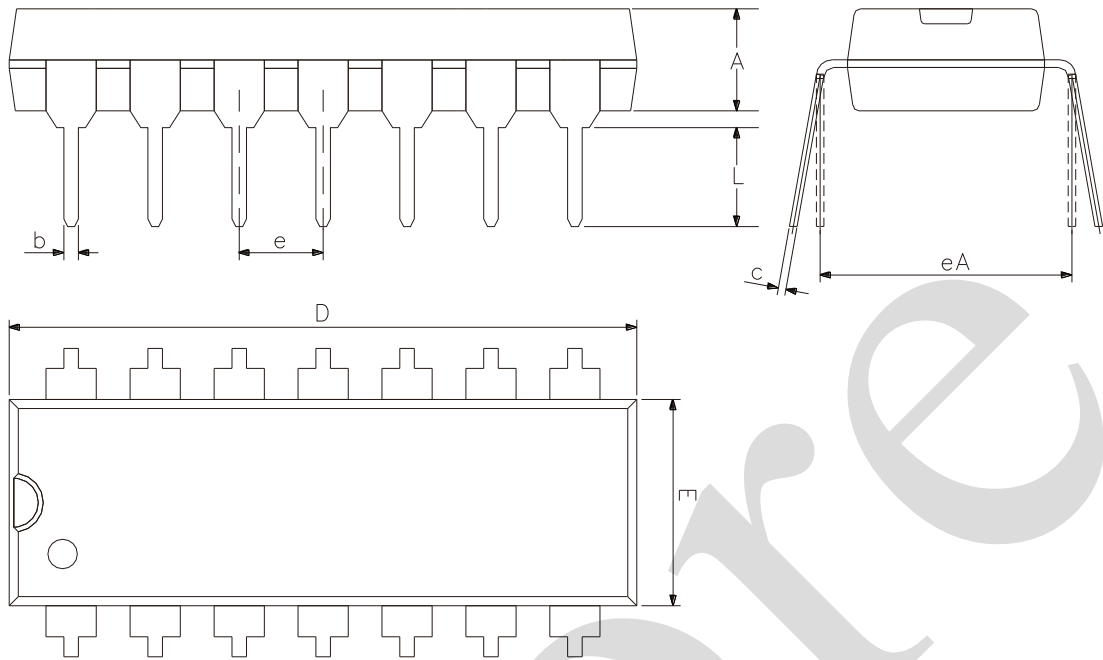
4.4. Measurement Points

| Type | Input | Output |
|-------------|---------------------|---------------------|
| | V_M | V_M |
| AiP74AHC74 | $0.5 \times V_{CC}$ | $0.5 \times V_{CC}$ |
| AiP74AHCT74 | 1.5V | $0.5 \times V_{CC}$ |



5、Package Information

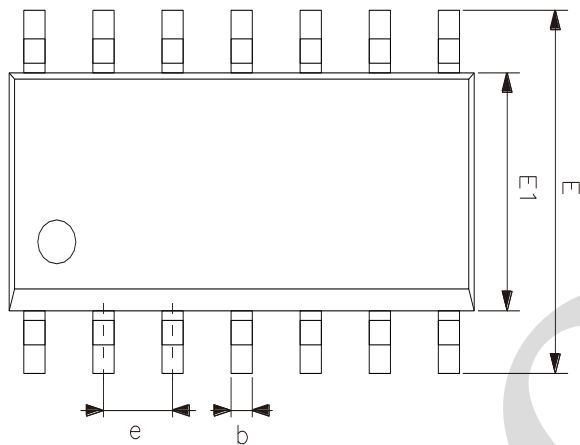
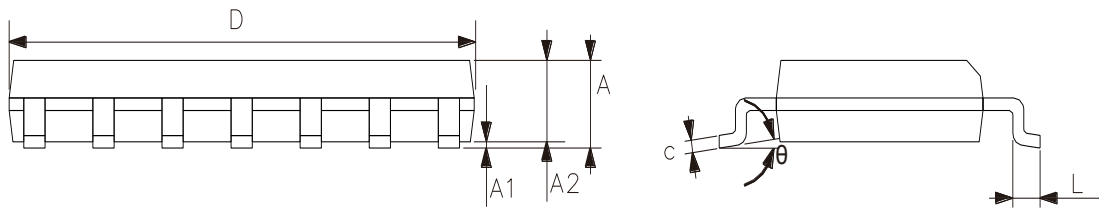
5.1、DIP14



| 2023/12/A | Dimensions In Millimeters | |
|-----------|---------------------------|-------|
| Symbol | Min | Max |
| A | 3.05 | 3.60 |
| b | 0.33 | 0.56 |
| c | 0.20 | 0.36 |
| D | 18.80 | 19.40 |
| E | 6.20 | 6.60 |
| e | 2.54 | |
| eA | 7.62 | 10.90 |
| L | 2.92 | — |



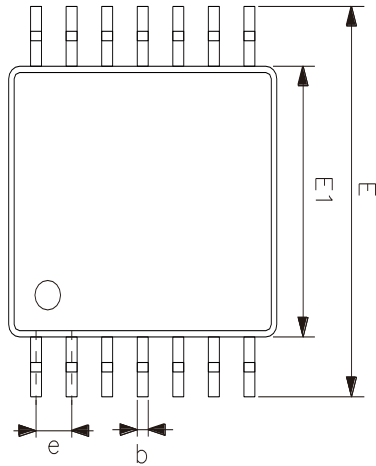
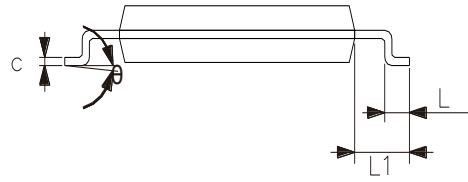
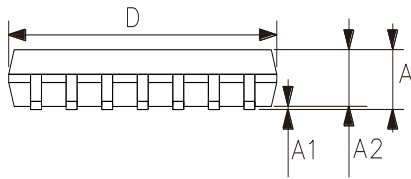
5.2、SOP14



| 2023/12/A Symbol | Dimensions In Millimeters | |
|---------------------|---------------------------|------|
| | Min. | Max. |
| A | 1.50 | 1.75 |
| A1 | 0.05 | 0.25 |
| A2 | 1.30 | — |
| b | 0.33 | 0.50 |
| c | 0.19 | 0.25 |
| D | 8.43 | 8.76 |
| E | 5.80 | 6.25 |
| E1 | 3.75 | 4.00 |
| e | 1.27 | |
| L | 0.40 | 0.89 |
| θ | 0° | 8° |



5.3、TSSOP14



| 2023/12/A | Dimensions In Millimeters | |
|-----------|---------------------------|------|
| Symbol | Min | Max |
| A | — | 1.20 |
| A1 | 0.05 | 0.15 |
| A2 | 0.80 | 1.05 |
| b | 0.19 | 0.30 |
| c | 0.09 | 0.20 |
| D | 4.90 | 5.10 |
| E1 | 4.30 | 4.50 |
| E | 6.20 | 6.60 |
| e | 0.65 | |
| L | 0.45 | 0.75 |
| L1 | 1.00 | |
| θ | 0° | 8° |



6、 Statements And Notes

6.1、 The name and content of Hazardous substances or Elements in the product

| Part name | Hazardous substances or Elements | | | | | | | | | |
|-------------------------|---|-------------------------------|-------------------------------|-------------------------------|--------------------------|--------------------------------|-------------------|-----------------------|---------------------------|----------------------|
| | Lead and lead compounds | Mercury and mercury compounds | Cadmium and cadmium compounds | Hexavalent chromium compounds | Polybrominated biphenyls | Polybrominated biphenyl ethers | Dibutyl phthalate | Butylbenzyl phthalate | Di-2-ethylhexyl phthalate | Diisobutyl phthalate |
| Lead frame | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Plastic resin | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Chip | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| The lead | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Plastic sheet installed | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| explanation | ○: Indicates that the content of hazardous substances or elements in the detection limit of the following the SJ/T11363-2006 standard. ×: Indicates that the content of hazardous substances or elements exceeding the SJ/T11363-2006 Standard limit requirements. | | | | | | | | | |

6.2、 Notes

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