

HD74LS14

Hex Schmitt Trigger Inverters

REJ03D0399-0300

Rev.3.00

Jul.13.2005

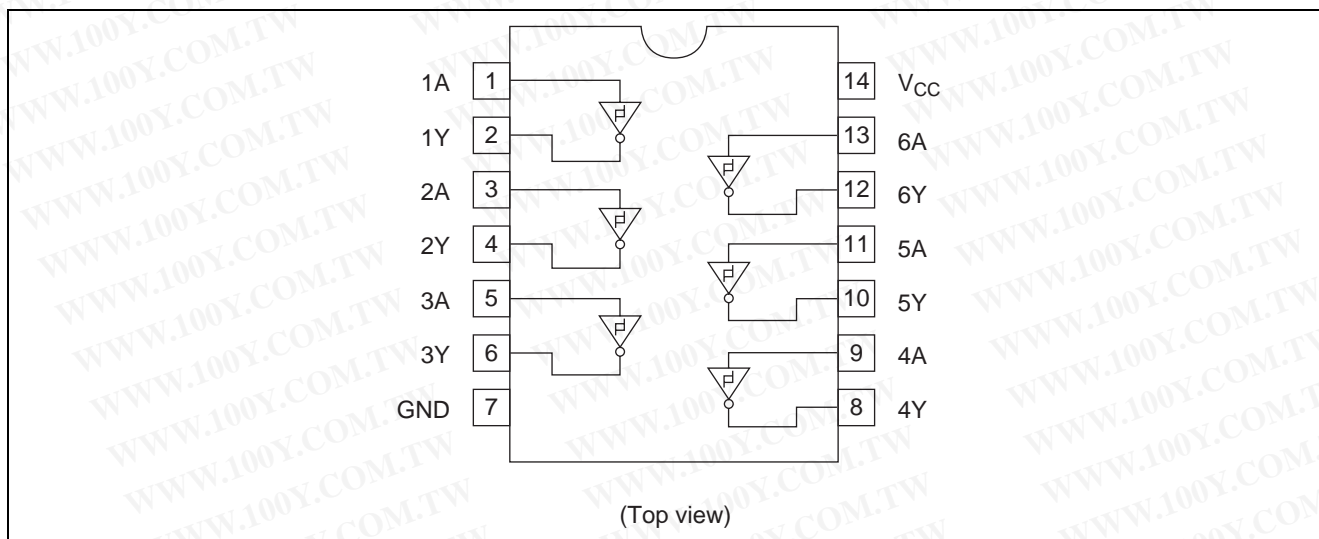
Features

- Ordering Information

| Part Name | Package Type | Package Code (Previous Code) | Package Abbreviation | Taping Abbreviation (Quantity) |
|--------------|--------------------|---------------------------------|-------------------------|-----------------------------------|
| HD74LS14P | DILP-14 pin | PRDP0014AB-B (DP-14AV) | P | — |
| HD74LS14FPEL | SOP-14 pin (JEITA) | PRSP0014DF-B (FP-14DAV) | FP | EL (2,000 pcs/reel) |

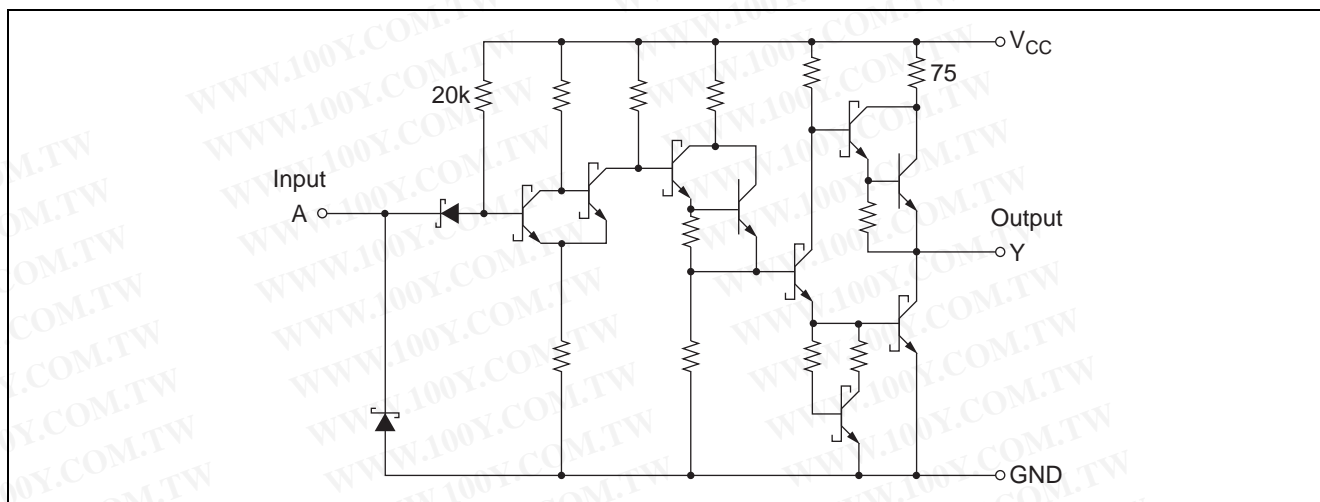
Note: Please consult the sales office for the above package availability.

Pin Arrangement



勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
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[Http://www.100y.com.tw](http://www.100y.com.tw)

Circuit Schematic (1/6)



Absolute Maximum Ratings

| Item | Symbol | Ratings | Unit |
|---------------------|-----------|-------------|------|
| Input voltage | V_{IN} | 7 | V |
| Supply voltage | V_{CC} | 7 | V |
| Power dissipation | P_T | 400 | mW |
| Storage temperature | T_{stg} | -65 to +150 | °C |

Note: Voltage value, unless otherwise noted, are with respect to network ground terminal.

Recommended Operating Conditions

| Item | Symbol | Min | Typ | Max | Unit |
|-----------------------|-----------|------|------|------|---------|
| Supply voltage | V_{CC} | 4.75 | 5.00 | 5.25 | V |
| Output current | I_{OH} | — | — | -400 | μA |
| | I_{OL} | — | — | 8 | mA |
| Operating temperature | T_{opr} | -20 | 25 | 75 | °C |

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Electrical Characteristics

(Ta = -20 to +75 °C)

| Item | Symbol | min. | typ.* | max. | Unit | Condition |
|------------------------------|---------------------|------|-------|------|---------------|--|
| Input threshold voltage | V_{T^+} | 1.4 | 1.6 | 1.9 | V | $V_{CC} = 5\text{ V}$ |
| | V_{T^-} | 0.5 | 0.7 | 1.0 | V | $V_{CC} = 5\text{ V}$ |
| Hysteresis | $V_{T^+} - V_{T^-}$ | 0.4 | 0.9 | — | V | $V_{CC} = 5\text{ V}$ |
| Output voltage | V_{OH} | 2.7 | — | — | V | $V_{CC} = 4.75\text{ V}$, $V_I = 0.5\text{ V}$, $I_{OH} = -400\text{ }\mu\text{A}$ |
| | V_{OL} | — | — | 0.5 | V | $V_{CC} = 4.75\text{ V}$, $V_I = 1.9\text{ V}$ |
| | | — | — | 0.4 | | |
| Input threshold current | I_{T^+} | — | -0.14 | — | mA | $V_{CC} = 5\text{ V}$, $V_I = V_{T^+}$ |
| | I_{T^-} | — | -0.18 | — | mA | $V_{CC} = 5\text{ V}$, $V_I = V_{T^-}$ |
| Input current | I_{IH} | — | — | 20 | μA | $V_{CC} = 5.25\text{ V}$, $V_I = 2.7\text{ V}$ |
| | I_{IL} | — | — | -0.4 | mA | $V_{CC} = 5.25\text{ V}$, $V_I = 0.4\text{ V}$ |
| | I_I | — | — | 0.1 | mA | $V_{CC} = 5.25\text{ V}$, $V_I = 7\text{ V}$ |
| Short-circuit output current | I_{OS} | -20 | — | -100 | mA | $V_{CC} = 5.25\text{ V}$ |
| Supply current | I_{CCH} | — | 8.6 | 16 | mA | $V_{CC} = 5.25\text{ V}$ |
| | I_{CCL} | — | 12 | 21 | mA | $V_{CC} = 5.25\text{ V}$ |
| Input clamp voltage | V_{IK} | — | — | -1.5 | V | $V_{CC} = 4.75\text{ V}$, $I_{IN} = -18\text{ mA}$ |

Note: * $V_{CC} = 5\text{ V}$, $T_a = 25^\circ\text{C}$

Switching Characteristics

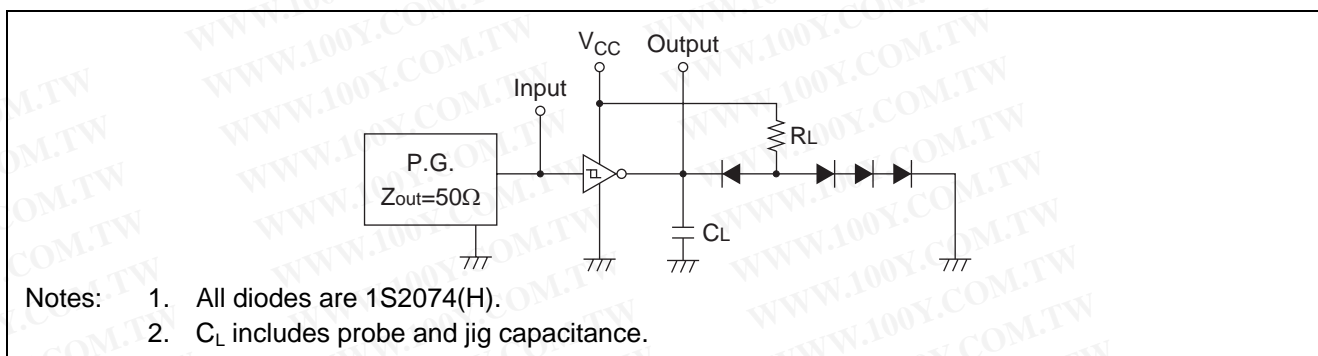
(V_{CC} = 5 V, T_a = 25°C)

| Item | Symbol | min. | typ. | max. | Unit | Condition |
|------------------------|-----------|------|------|------|------|---|
| Propagation delay time | t_{PLH} | — | 15 | 22 | ns | $C_L = 15\text{ pF}$, $R_L = 2\text{ k}\Omega$ |
| | t_{PHL} | — | 15 | 22 | ns | |

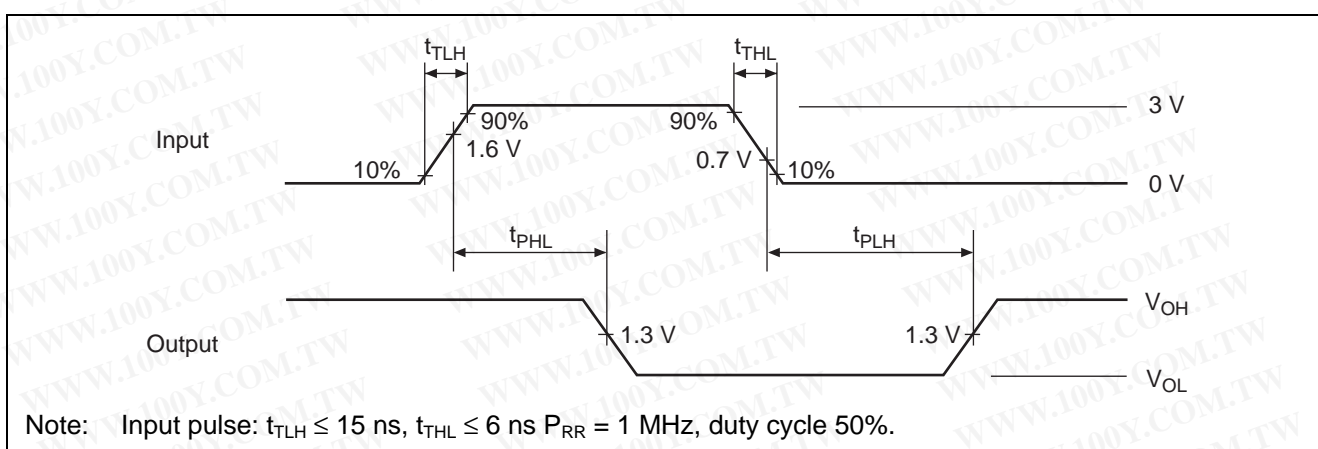
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Testing Method

Test Circuit

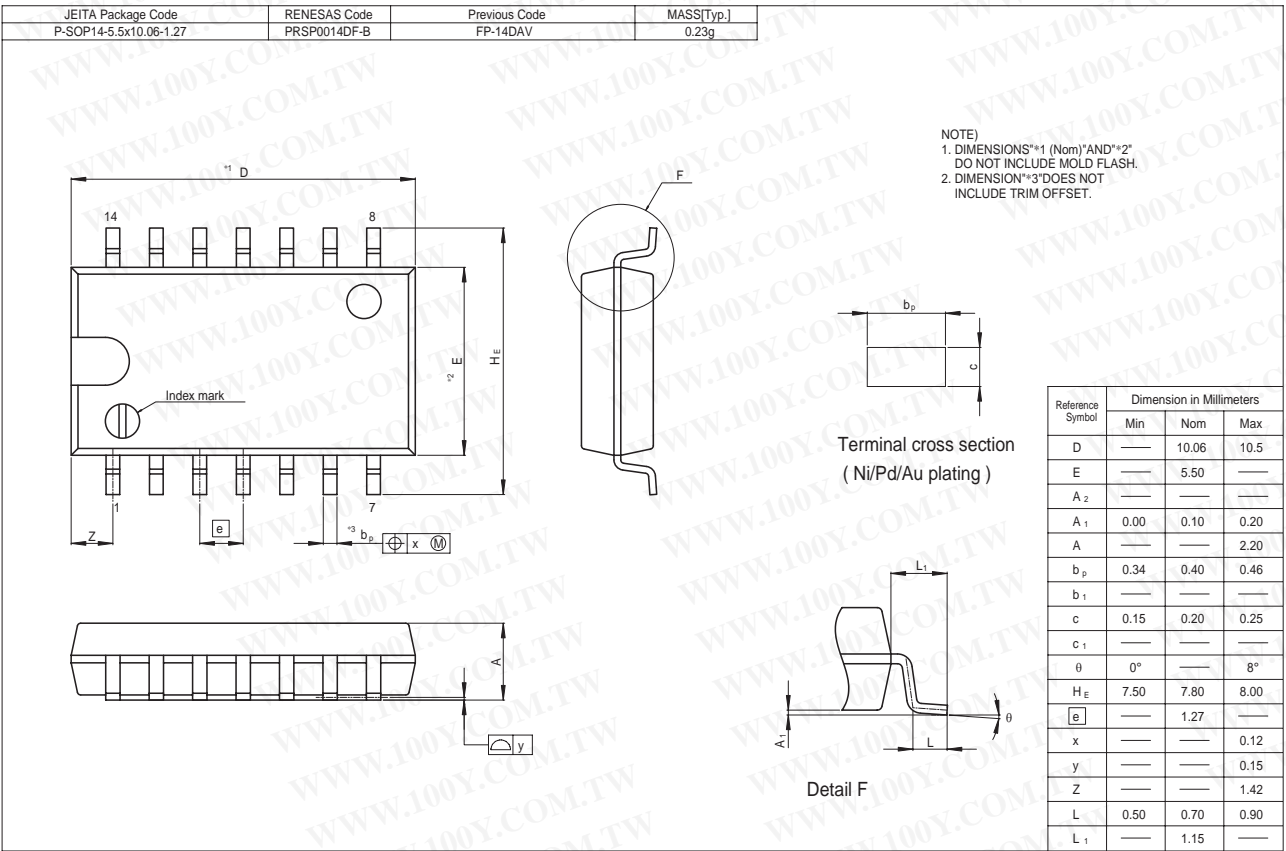
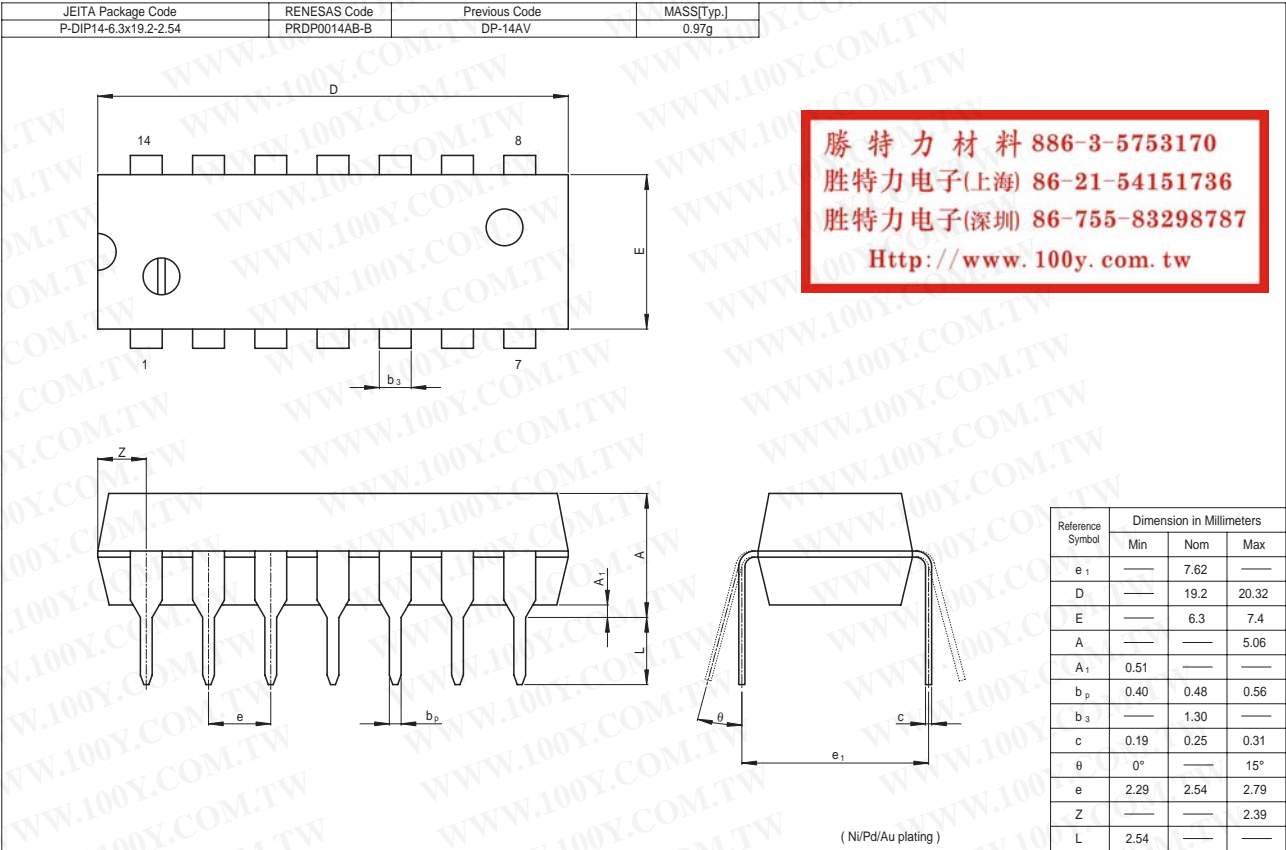


Waveform



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Package Dimensions



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