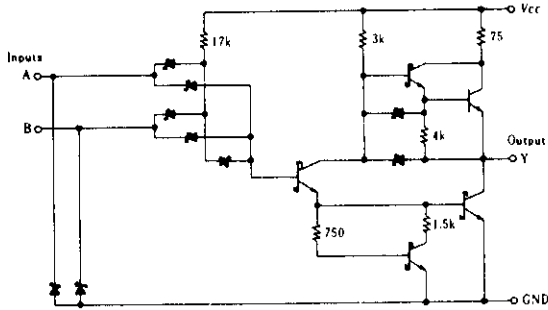
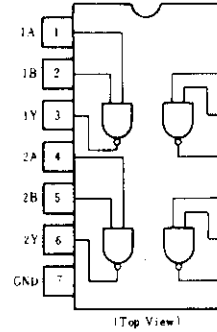


HD74LS37 ● Quadruple 2-input Positive NAND Buffers

■ CIRCUIT SCHEMATIC (1/4)



■ PIN ARRANGEMENT



■ RECOMMENDED OPERATING CONDITIONS

| Item | Symbol | min | typ | max | Unit |
|---------------------------|----------|-----|-----|------|------|
| High level output current | I_{OH} | — | — | -1.2 | mA |
| Low level output current | I_{OL} | — | — | 24 | mA |

■ ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$)

| Item | Symbol | Test Conditions | min | typ* | max | Unit | |
|------------------------------|-----------|---|------------------------|------|------|---------------|---|
| Input voltage | V_{IH} | | 2.0 | — | — | V | |
| | V_{IL} | | — | — | 0.8 | V | |
| Output voltage | V_{OH} | $V_{CC} = 4.75\text{V}$, $V_{IL} = 0.8\text{V}$, $I_{OH} = -1.2\text{mA}$ | 2.7 | — | — | V | |
| | V_{OL} | $V_{CC} = 4.75\text{V}$, $V_{IH} = 2\text{V}$ | $I_{OL} = 24\text{mA}$ | — | — | 0.5 | V |
| | | | $I_{OL} = 12\text{mA}$ | — | — | 0.4 | |
| Input current | I_{IH} | $V_{CC} = 5.25\text{V}$, $V_I = 2.7\text{V}$ | — | — | 20 | μA | |
| | I_{IL} | $V_{CC} = 5.25\text{V}$, $V_I = 0.4\text{V}$ | — | — | -0.4 | mA | |
| | I_I | $V_{CC} = 5.25\text{V}$, $V_I = 7\text{V}$ | — | — | 0.1 | mA | |
| Short-circuit output current | I_{OS} | $V_{CC} = 5.25\text{V}$ | -30 | — | -130 | mA | |
| Supply current | I_{CCH} | $V_{CC} = 5.25\text{V}$ | — | 0.9 | 2.0 | mA | |
| | I_{CCL} | $V_{CC} = 5.25\text{V}$ | — | 6 | 12 | mA | |
| Input clamp voltage | V_{IX} | $V_{CC} = 4.75\text{V}$, $I_{IN} = -18\text{mA}$ | — | — | -1.5 | V | |

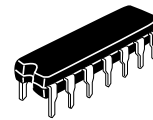
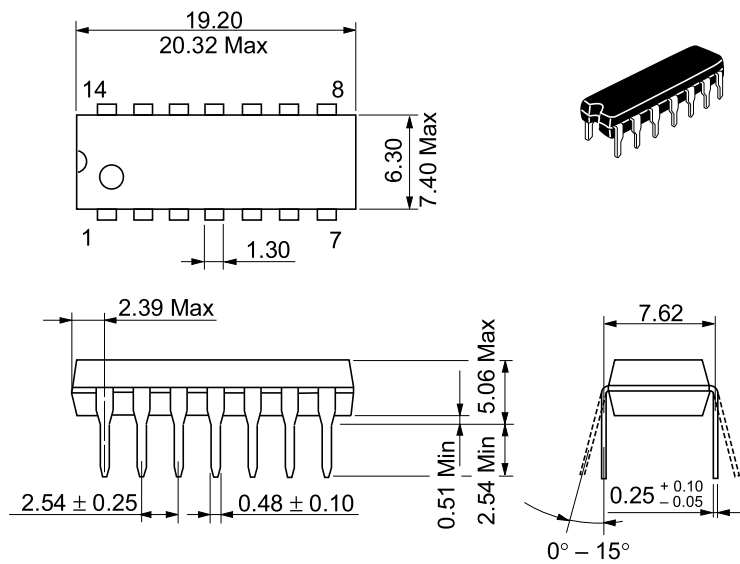
* $V_{CC} = 5\text{V}$, $T_a = 25^\circ\text{C}$

■ SWITCHING CHARACTERISTICS ($V_{CC} = 5\text{V}$, $T_a = 25^\circ\text{C}$)

| Item | Symbol | Test Conditions | min | typ | max | Unit |
|------------------------|-----------|---|-----|-----|-----|------|
| Propagation delay time | t_{PLH} | $C_L = 45\text{pF}$, $R_L = 667\ \Omega$ | — | 12 | 24 | ns |
| | t_{PHL} | | — | 12 | 24 | ns |

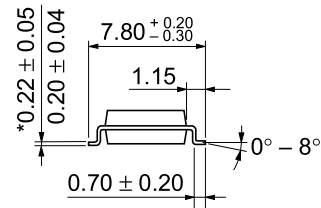
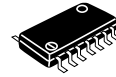
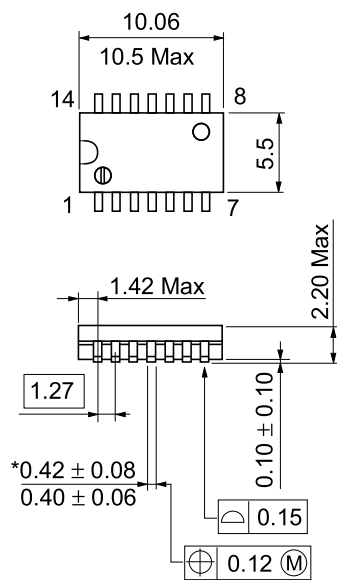
Note) Refer to Test Circuit and Waveform of the Common Item

Unit: mm



| | |
|--------------------------|----------|
| Hitachi Code | DP-14 |
| JEDEC | Conforms |
| EIAJ | Conforms |
| Weight (reference value) | 0.97 g |

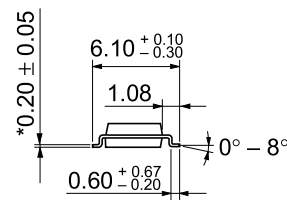
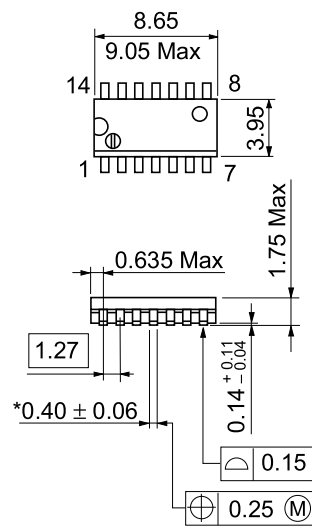
Unit: mm



*Dimension including the plating thickness
Base material dimension

| | |
|--------------------------|----------|
| Hitachi Code | FP-14DA |
| JEDEC | — |
| EIAJ | Conforms |
| Weight (reference value) | 0.23 g |

Unit: mm



*Pd plating

| | |
|--------------------------|----------|
| Hitachi Code | FP-14DN |
| JEDEC | Conforms |
| EIAJ | Conforms |
| Weight (reference value) | 0.13 g |

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HITACHI

Hitachi, Ltd.

Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL NorthAmerica : <http://semiconductor.hitachi.com/>
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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose, CA 95134
Tel: <1> (408) 433-1990
Fax: <1>(408) 433-0223

Hitachi Europe GmbH
Electronic components Group
Dornacher StraÙe 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building, No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX

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