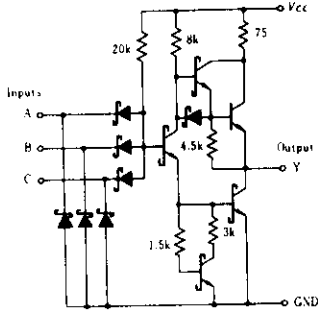
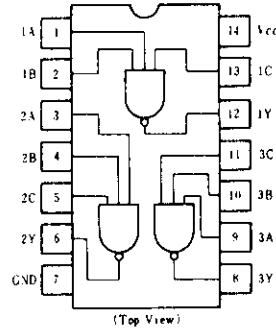


HD74LS10 • Triple 3-input Positive NAND Gates

■ CIRCUIT SCHEMATIC (1/3)



■ PIN ARRANGEMENT



■ 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} | $V_{CC} = 4.75\text{V}, V_{IL} = 0.8\text{V}, I_{OH} = -400\mu\text{A}$ | 2.7 | — | — | V | |
| | V_{OL} | $V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V}$ | $I_{OL} = 8\text{mA}$ | — | — | 0.5 | V |
| | | | $I_{OL} = 4\text{mA}$ | — | — | 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} | $V_{CC} = 5.25\text{V}$ | -20 | — | -100 | mA | |
| Supply current | I_{CCH} | $V_{CC} = 5.25\text{V}$ | — | 0.6 | 1.2 | mA | |
| | I_{CCL} | | — | 1.8 | 3.3 | | |
| Input clamp voltage | V_{IK} | $V_{CC} = 4.75\text{V}, I_{IN} = -18\text{mA}$ | — | — | -1.5 | V | |

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

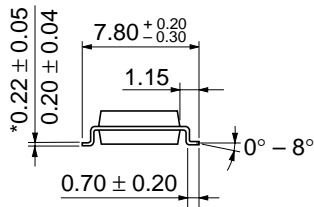
■ SWITCHING CHARACTERISTICS ($V_{CC} = 5\text{V}, T_a = 25^\circ\text{C}$)

| Item | Symbol | Test Conditions | min | typ | max | Unit |
|------------------------|-----------|--|-----|-----|-----|------|
| Propagation delay time | t_{PLH} | $C_L = 15\text{pF}, R_L = 2\text{k}\Omega$ | — | 9 | 15 | ns |
| | t_{PHL} | | — | 10 | 15 | |

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



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



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

*Dimension including the plating thickness
Base material dimension



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

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