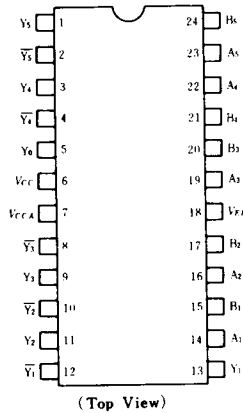


# HD100107

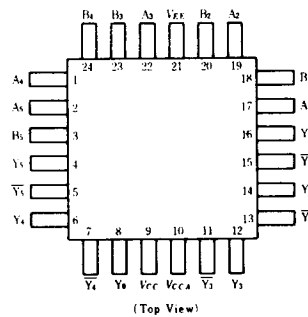
## Quintuple Exclusive-OR/NOR Gates

### ■ PIN ARRANGEMENT

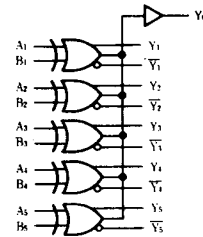
#### ● HD100107



#### ● HD100107F



### ■ LOGIC DIAGRAM



### ■ DC CHARACTERISTICS ( $V_{EE} = -4.2$ to $-4.8V$ , $V_{CC} = V_{CCA} = GND$ , $T_a = 0$ to $+85^\circ C$ )

| Item           | Symbol   | Test Condition                            | min | typ | max | Unit    |
|----------------|----------|-------------------------------------------|-----|-----|-----|---------|
| Supply Current | $I_{EE}$ | All input open                            | 46  | 66  | 96  | mA      |
| Input Current  | $I_{IH}$ | $V_{IN} = V_{IH \max}$ B1, B2, B3, B4, B5 | —   | —   | 250 | $\mu A$ |
|                |          | A1, A2, A3, A4, A5                        | —   | —   | 350 | $\mu A$ |

Note) As for other items, refer to the "Common DC Characteristics".

### ■ AC CHARACTERISTICS ( $V_{EE} = -2.2$ to $-2.8V$ , $V_{CC} = V_{CCA} = 2.0V$ )

#### ● HD100107

| Item                   | Symbol                 | Test Condition                | 0°C                                                    |      | 25°C |      |      | 85°C |      | Unit |
|------------------------|------------------------|-------------------------------|--------------------------------------------------------|------|------|------|------|------|------|------|
|                        |                        |                               | min                                                    | max  | min  | typ  | max  | min  | max  |      |
| Propagation Delay Time | $t_{PLH}$<br>$t_{PHL}$ | See test circuit and waveform | B <sub>n</sub> input $\rightarrow Y_n, \overline{Y_n}$ |      | 0.55 | 1.70 | 0.55 | 1.10 | 1.70 | ns   |
|                        |                        |                               | A <sub>n</sub> input $\rightarrow Y_n, \overline{Y_n}$ |      | 0.55 | 1.60 | 0.55 | 0.90 | 1.60 |      |
|                        |                        |                               | Data $\rightarrow Y_0$                                 |      | 1.00 | 2.65 | 1.10 | 1.85 | 2.65 |      |
| Transition Time        | $t_{TLH}$<br>$t_{THL}$ |                               | 0.40                                                   | 1.20 | 0.40 | 0.70 | 1.20 | 0.40 | 1.20 | ns   |

#### ● HD100107F

| Item                   | Symbol                 | Test Condition                | 0°C                                                    |      | 25°C |      |      | 85°C |      | Unit |
|------------------------|------------------------|-------------------------------|--------------------------------------------------------|------|------|------|------|------|------|------|
|                        |                        |                               | min                                                    | max  | min  | typ  | max  | min  | max  |      |
| Propagation Delay Time | $t_{PLH}$<br>$t_{PHL}$ | See test circuit and waveform | B <sub>n</sub> input $\rightarrow Y_n, \overline{Y_n}$ |      | 0.55 | 1.55 | 0.55 | 1.10 | 1.55 | ns   |
|                        |                        |                               | A <sub>n</sub> input $\rightarrow Y_n, \overline{Y_n}$ |      | 0.55 | 1.20 | 0.55 | 0.90 | 1.20 |      |
|                        |                        |                               | Data $\rightarrow Y_0$                                 |      | 1.05 | 2.55 | 1.15 | 1.85 | 2.55 |      |
| Transition Time        | $t_{TLH}$<br>$t_{THL}$ |                               | 0.45                                                   | 1.20 | 0.45 | 0.70 | 1.20 | 0.45 | 1.20 | ns   |

Notes) The circuits in a test socket or mounted on a printed circuit board and transverse air flow greater than 2.5m/s (500 linear fpm) is maintained.