

96101 035025

## QUAD 2-INPUT POSITIVE NAND BUFFER

(With Open-Collector Output)

**DESCRIPTION** — The 96101 is similar to the 54/7439, except that the outputs are specified at three levels of  $I_{OL}$ ; in the HIGH state the  $I_{OH}$  current is specified at two levels of  $V_{OH}$ . During switching transitions, output current change rate is typically 4.0 mA/ns.

**ORDERING CODE:** See Section 9

| PKGS            | PIN OUT | COMMERCIAL GRADE   | MILITARY GRADE   | PKG TYPE |
|-----------------|---------|--|--|----------|
|                 |         | $V_{CC} = +5.0 \text{ V} \pm 5\%$ ,<br>$T_A = 0^\circ \text{C to } +75^\circ \text{C}$ | $V_{CC} = +5.0 \text{ V} \pm 10\%$ ,<br>$T_A = -55^\circ \text{C to } +125^\circ \text{C}$ |          |
| Plastic DIP (P) | A       | 96101PC  |  | 9A       |
| Ceramic DIP (D) | A       | 96101DC  | 96101DM  | 6A       |

**INPUT LOADING/FAN-OUT:** See Section 3 for U.L. definitions

| PINS    | 96XX (U.L.) HIGH/LOW |  |
|---------|----------------------|--|
| Inputs  | 1.0/1.0              |  |
| Outputs | OC**/30              |  |

**DC AND AC CHARACTERISTICS:** See Section 3\*

| SYMBOL                 | PARAMETER                            | 96XX |     | UNITS         | CONDITIONS  |  |
|------------------------|--------------------------------------|------|-----|---------------|---|--|
|                        |                                      | Min  | Max |               |   |  |
| $V_{IH}$               | Input HIGH Voltage                   | 2.0  |     | V             |   |  |
| $V_{IL}$               | Input LOW Voltage                    | 0.8  |     | V             |   |  |
| $V_{OL}$               | Output LOW Voltage                   | 0.4  |     | V             | $V_{CC} = \text{Min}$<br>$V_{IN} = V_{IH}$                |  |
|                        |                                      | 0.5  |     |               |   | $I_{OL} = 48 \text{ mA}$                             |
|                        |                                      | 0.6  |     |               |   | $I_{OL} = 60 \text{ mA}$<br>$I_{OL} = 80 \text{ mA}$ |
| $I_{OH}$               | Output HIGH Current                  | 25   |     | $\mu\text{A}$ | $V_{OH} = 3.5 \text{ V}$<br>$V_{OH} = 5.5 \text{ V}$      | $V_{CC} = \text{Min}$<br>$V_{IN} = V_{IL}$           |
|                        |                                      | 50   |     |               |   |  |
| $I_{IH}$               | Input HIGH Current                   | 40   |     | $\mu\text{A}$ | $V_{IN} = 2.4 \text{ V}$<br>$V_{IN} = 5.5 \text{ V}$      | $V_{CC} = \text{Max}$                                |
|                        |                                      | 1.0  |     |               |   |  |
| $I_{IL}$               | Input LOW Current                    | -1.6 |     | mA            | $V_{IN} = 0.4 \text{ V}, V_{CC} = \text{Max}$             |  |
| $I_{CCH}$<br>$I_{CCL}$ | Power Supply Current                 | 8.5  |     | mA            | $V_{IN} = \text{Gnd}$                                     | $V_{CC} = \text{Max}$                                |
|                        |                                      | 54   |     |               | $V_{IN} = \text{Open}$                                    |  |
| $t_{PLH}$<br>$t_{PHL}$ | Propagation Delay<br>Input to Output | 22   |     | ns            | $C_L = 45 \text{ pF}, R_L = 120 \Omega$<br>Figs. 3-2, 3-4 |  |
|                        |                                      | 25   |     |               |   |  |

\*DC limits apply over operating temperature range; AC limits apply at  $T_A = +25^\circ \text{C}$  and  $V_{CC} = +5.0 \text{ V}$ . \*\*OC — Open Collector

### CONNECTION DIAGRAM PINOUT A

