

**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      |               |                                                                                                    |
|                        |                                      |      | 0.6      |               |                                                                                                    |
| $I_{OH}$               | Output HIGH Current                  |      | 25       | $\mu\text{A}$ | $V_{OH} = 3.5 \text{ V}$<br>$V_{OH} = 5.5 \text{ V}$<br>$V_{CC} = \text{Min}$<br>$V_{IN} = V_{IL}$ |
|                        |                                      |      | 50       |               |                                                                                                    |
| $I_{IH}$               | Input HIGH Current                   |      | 40       | $\mu\text{A}$ | $V_{IN} = 2.4 \text{ V}$<br>$V_{IN} = 5.5 \text{ V}$<br>$V_{CC} = \text{Max}$                      |
|                        |                                      |      | 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            | $V_{IN} = \text{Gnd}$<br>$V_{IN} = \text{Open}$<br>$V_{CC} = \text{Max}$                           |
|                        |                                      |      | 54       |               |                                                                                                    |
| $t_{PLH}$<br>$t_{PHL}$ | Propagation Delay<br>Input to Output |      | 22<br>25 | ns            | $C_L = 45 \text{ pF}$ , $R_L = 120 \Omega$<br>Figs. 3-2, 3-4                                       |

\*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