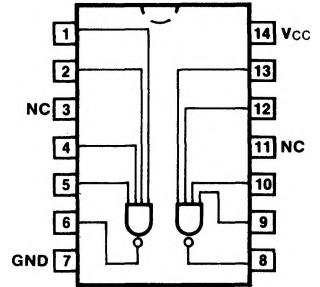


54/7422
54H/74H22
54S/74S22
54LS/74LS22

DUAL 4-INPUT NAND GATE
 (With Open-Collector Output)

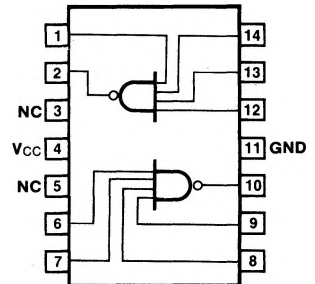
CONNECTION DIAGRAMS
PINOUT A



ORDERING CODE: See Section 9

| PKGS | PIN OUT | COMMERCIAL GRADE | MILITARY GRADE | PKG TYPE |
|-----------------|---------|---|---|----------|
| | | $V_{CC} = +5.0\text{ V} \pm 5\%$, $T_A = 0^\circ\text{ C to } +70^\circ\text{ C}$ | $V_{CC} = +5.0\text{ V} \pm 10\%$, $T_A = -55^\circ\text{ C to } +125^\circ\text{ C}$ | |
| Plastic DIP (P) | A | 7422PC, 74H22PC 74S22PC, 74LS22PC | | 9A |
| Ceramic DIP (D) | A | 7422DC, 74H22DC 74S22DC, 74LS22DC | 5422DM, 54H22DM 54S22DM, 54LS22DM | 6A |
| Flatpak (F) | A | 7422FC, 74S22FC 74LS22FC | 5422FM, 54S22FM 54LS22FM | 3I |
| | B | 74H22FC | 54H22FM | |

PINOUT B



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

| PINS | 54/74 (U.L.) HIGH/LOW | 54/74H (U.L.) HIGH/LOW | 54/74S (U.L.) HIGH/LOW | 54/74LS (U.L.) HIGH/LOW |
|---------|--------------------------|---------------------------|---------------------------|----------------------------|
| Inputs | 1.0/1.0 | 1.25/1.25 | 1.25/1.25 | 0.5/0.25 |
| Outputs | OC**/10 | OC**/12.5 | OC**/12.5 | OC**/5.0 (2.5) |

DC AND AC CHARACTERISTICS: See Section 3*

| SYMBOL | PARAMETER | 54/74 | | 54/74H | | 54/74S | | 54/74LS | | UNITS | CONDITIONS | |
|-----------|-------------------|-------|-----|--------|-----|---------|-----|---------|-----|-------|------------------------|-----------------------|
| | | Min | Max | Min | Max | Min | Max | Min | Max | | $V_{IN} = \text{Gnd}$ | $V_{CC} = \text{Max}$ |
| I_{CCH} | Power Supply | 4.0 | | 5.0 | | 6.6 | | 0.8 | | mA | | |
| I_{CCL} | Current | | 11 | | 20 | | 18 | | 2.2 | | $V_{IN} = \text{Open}$ | |
| t_{PLH} | Propagation Delay | 45 | | 15 | | 2.0 7.5 | | 22 | | ns | Figs. 3-2, 3-4 | |
| t_{PHL} | | 15 | | 12 | | 2.0 7.0 | | 18 | | | | |

*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