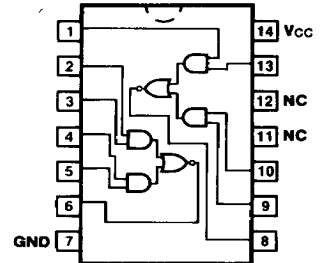


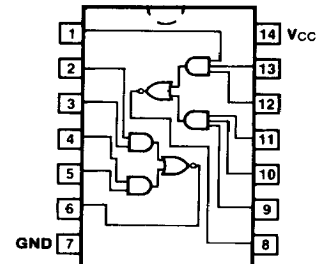
011606  
 ✓ 54/7451  
 ✓ 54H/74H51 011607  
 ✓ 54S/74S51 011608  
 ✓ 54LS/74LS51 011609

DUAL 2-WIDE, 2-INPUT AOI GATE  
 DUAL 2-WIDE, 2-INPUT/3-INPUT AOI GATE ('LS51)

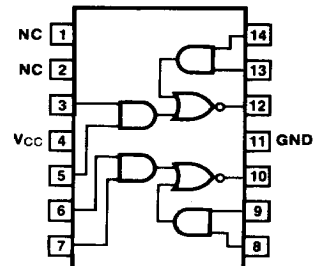
**CONNECTION DIAGRAMS**  
**PINOUT A**



**PINOUT B**



**PINOUT C**



**ORDERING CODE:** See Section 9

| PKGS            | PIN OUT | COMMERCIAL GRADE   | MILITARY GRADE   | PKG TYPE |
|-----------------|---------|--|--|----------|
|                 |         | V <sub>CC</sub> = +5.0 V ±5%,<br>T <sub>A</sub> = 0°C to +70°C | V <sub>CC</sub> = +5.0 V ±10%,<br>T <sub>A</sub> = -55°C to +125°C |          |
| Plastic DIP (P) | A       | 7451PC, 74H51PC<br>74S51PC                                     |  | 9A       |
|                 | B       | 74LS51PC   |  |          |
| Ceramic DIP (D) | A       | 7451DC, 74H51DC<br>74S51DC                                     | 5451DM, 54H51DM<br>54S51DM   | 6A       |
|                 | B       | 74LS51DC   | 54LS51DM   |          |
| Flatpak (F)     | A       | 74S51FC  | 54S51FM  | 3I       |
|                 | B       | 74LS51FC   | 54LS51FM   |          |
|                 | C       | 7451FC, 74H51FC  | 5451FM, 54H51FM  |          |

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

| PINS    | 54/74 (U.L.)<br>HIGH/LOW | 54/74H (U.L.)<br>HIGH/LOW | 54/74S (U.L.)<br>HIGH/LOW | 54/74LS (U.L.)<br>HIGH/LOW |
|---------|--------------------------|---------------------------|---------------------------|----------------------------|
| Inputs  | 1.0/1.0                  | 1.25/1.25                 | 1.25/1.25                 | 0.5/0.25                   |
| Outputs | 20/10                    | 12.5/12.5                 | 25/12.5                   | 10/5.0<br>(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 |       |   |                       |
| I <sub>CC</sub> H | Power Supply Current | 8.0     | 12.8    | 17.8    | 1.6     | mA    | V <sub>IN</sub> = Gnd<br>V <sub>IN</sub> = Open | V <sub>CC</sub> = Max |
| I <sub>CC</sub> L |                      | 14      | 24      | 22      | 2.8     |       |   |                       |
| t <sub>PL</sub> H | Propagation Delay    | 22      | 11      | 2.0     | 5.5     | ns    | Figs. 3-1, 3-4                                  |                       |
| t <sub>PH</sub> L |                      | 15      | 11      | 2.0     | 5.5     |       |   |                       |

\*DC limits apply over operating temperature range; AC limits apply at T<sub>A</sub> = +25°C and V<sub>CC</sub> = +5.0 V.