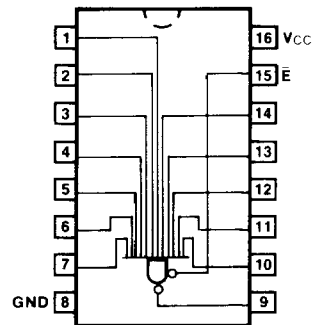


✓ **54S/74S134** C10122  
**12-INPUT NAND GATE**  
 (With 3-State Outputs)

**CONNECTION DIAGRAM**  
 PINOUT A



**ORDERING CODE:** See Section 9

| PKGS            | PIN OUT | COMMERCIAL GRADE  | MILITARY GRADE  | PKG TYPE |
|-----------------|---------|---|---|----------|
|                 |         | $V_{CC} = +5.0\text{ V} \pm 5\%$ ,<br>$T_A = 0^\circ\text{ C to } +70^\circ\text{ C}$ | $V_{CC} = +5.0\text{ V} \pm 10\%$ ,<br>$T_A = -55^\circ\text{ C to } +125^\circ\text{ C}$ |          |
| Plastic DIP (P) | A       | 74S134PC  |   | 9B       |
| Ceramic DIP (D) | A       | 74S134DC  | 54S134DM  | 6B       |
| Flatpak (F)     | A       | 74S134FC  | 54S134FM  | 4L       |

**TRUTH TABLE**

| INPUTS     |   | OUTPUTS |   |
|------------|---|---------|---|
| A          | L | Enable  | Y |
| H          | H | L       | L |
| Any In LOW |   | L       | H |
| X          | X | H       | Z |

H = HIGH Voltage Level  
 L = LOW Voltage Level  
 X = Immaterial  
 Z = High Impedance

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

| PINS    | 54/74S (U.L.)<br>HIGH/LOW |
|---------|---------------------------|
| Inputs  | 1.25/1.25                 |
| Outputs | 50/12.5                   |

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

| SYMBOL           | PARAMETER            |              | 54/74S |      | UNITS | CONDITIONS   |
|------------------|----------------------|--------------|--------|------|-------|--|
|                  |                      |              | Min    | Max  |       |  |
| V <sub>OH</sub>  | Output HIGH Voltage  | XM           | 2.4    |      | V     | I <sub>OH</sub> = -2.0 mA<br>I <sub>OH</sub> = -6.5 mA |
|                  |                      | XC           | 2.4    |      |       |  |
| I <sub>CC</sub>  | Power Supply Current | Outputs HIGH | 13     | mA   |       | V <sub>CC</sub> = Max                                  |
|                  |                      | Outputs LOW  | 16     |      |       |  |
|                  |                      | Outputs OFF  | 25     |      |       |  |
| t <sub>PLH</sub> | Propagation Delay    |              | 2.0    | 6.0  | ns    | Figs. 3-3, 3-4   |
| t <sub>PHL</sub> | Data to Output       |              | 2.0    | 7.5  |       |  |
| t <sub>PZH</sub> | Output Enable Time   |              |        | 19.5 | ns    | Figs. 3-3, 3-11, 3-12                                  |
| t <sub>PZL</sub> |                      |              |        | 21   |       |  |
| t <sub>PHZ</sub> | Output Disable Time  |              |        | 8.5  | ns    | Figs. 3-3, 3-11, 3-12                                  |
| t <sub>PLZ</sub> |                      |              |        | 14   |       |  |

\*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.

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