
5420, 54H20, 54S20, 54LS20, 7420, 74H20, 74S20, 74LS20

Dual 4-Input NAND Gate

Rochester Electronics Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All recreations are done with the approval of the OCM.

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

Quality Overview

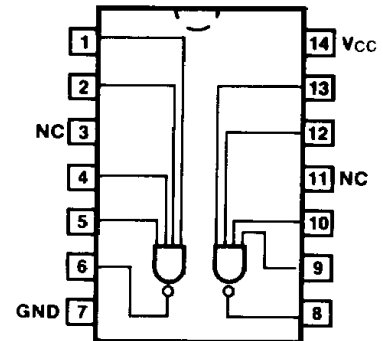
- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
 - Class Q Military
 - Class V Space Level
- Qualified Suppliers List of Distributors (QSLD)
 - Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OEM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

54/7420
54H/74H20
54S/74S20
54LS/74LS20
 DUAL 4-INPUT NAND GATE

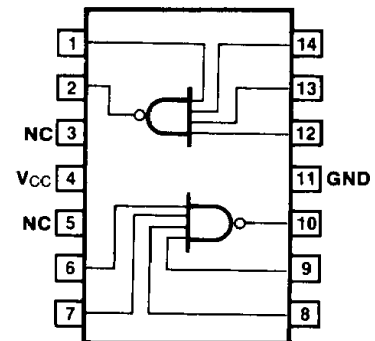
CONNECTION DIAGRAMS
 PINOUT A



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 | 7420PC, 74H20PC 74S20PC, 74LS20PC | | 9A |
| Ceramic DIP (D) | A | 7420DC, 74H20DC 74S20DC, 74LS20DC | 5420DM, 54H20DM 54S20DM, 54LS20DM | 6A |
| Flatpak (F) | A | 74S20FC, 74LS20FC | 54S20FM, 54LS20FM | 3I |
| | B | 7420FC, 74H20FC | 5420FM, 54H20FM | |

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 | 20/10 | 12.5/12.5 | 25/12.5 | 10/5.0 (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 | | | |
| I_{CCH} | Power Supply | 4.0 | 8.4 | 8.0 | 0.8 | mA | $V_{IN} = \text{Gnd}$ | $V_{CC} = \text{Max}$ |
| I_{CCL} | Current | 11 | 20 | 18 | 2.2 | | $V_{IN} = \text{Open}$ | |
| t_{PLH} t_{PHL} | Propagation Delay | 22 15 | 10 10 | 2.0 4.5 2.0 5.0 | 15 15 | ns | Figs. 3-1, 3-4 | |

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