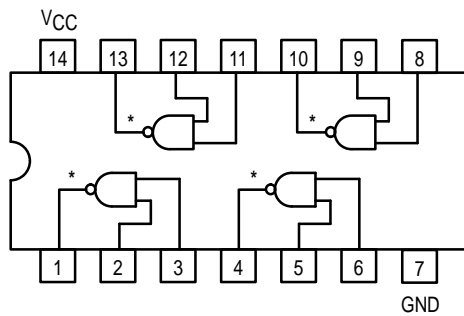




QUAD 2-INPUT NAND GATE

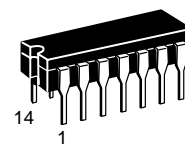
- ESD > 3500 Volts



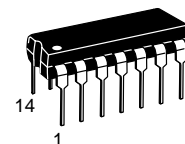
* OPEN COLLECTOR OUTPUTS

SN54/74LS01

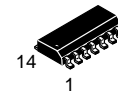
QUAD 2-INPUT NAND GATE
LOW POWER SCHOTTKY



J SUFFIX
CERAMIC
CASE 632-08



N SUFFIX
PLASTIC
CASE 646-06



D SUFFIX
SOIC
CASE 751A-02

ORDERING INFORMATION

| | |
|-----------|---------|
| SN54LSXXJ | Ceramic |
| SN74LSXXN | Plastic |
| SN74LSXXD | SOIC |

GUARANTEED OPERATING RANGES

| Symbol | Parameter | | Min | Typ | Max | Unit |
|-----------------|-------------------------------------|----------|-------------|------------|-------------|------|
| V _{CC} | Supply Voltage | 54 74 | 4.5 4.75 | 5.0 5.0 | 5.5 5.25 | V |
| T _A | Operating Ambient Temperature Range | 54 74 | -55 0 | 25 25 | 125 70 | °C |
| V _{OH} | Output Voltage — High | 54, 74 | | | 5.5 | V |
| I _{OL} | Output Current — Low | 54 74 | | | 4.0 8.0 | mA |

SN54/74LS01

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

| Symbol | Parameter | | Limits | | | Unit | Test Conditions | |
|----------|--------------------------------------------|--------|--------|-------|------|---------------|---------------------------------------------------|--------------------------------------------------------------------------------------------|
| | | | Min | Typ | Max | | | |
| V_{IH} | Input HIGH Voltage | | 2.0 | | | V | Guaranteed Input HIGH Voltage for All Inputs | |
| V_{IL} | Input LOW Voltage | 54 | | | 0.7 | V | Guaranteed Input LOW Voltage for All Inputs | |
| | | 74 | | | 0.8 | | | |
| V_{IK} | Input Clamp Diode Voltage | | | -0.65 | -1.5 | V | $V_{CC} = \text{MIN}$, $I_{IN} = -18 \text{ mA}$ | |
| I_{OH} | Output HIGH Current | 54, 74 | | | 100 | μA | $V_{CC} = \text{MIN}$, $V_{OH} = \text{MAX}$ | |
| V_{OL} | Output LOW Voltage | 54, 74 | | 0.25 | 0.4 | V | $I_{OL} = 4.0 \text{ mA}$ | $V_{CC} = V_{CC} \text{ MIN}$, $V_{IN} = V_{IL} \text{ or } V_{IH}$ per Truth Table |
| | | 74 | | 0.35 | 0.5 | V | $I_{OL} = 8.0 \text{ mA}$ | |
| I_{IH} | Input HIGH Current | | | | 20 | μA | $V_{CC} = \text{MAX}$, $V_{IN} = 2.7 \text{ V}$ | |
| | | | | | 0.1 | mA | $V_{CC} = \text{MAX}$, $V_{IN} = 7.0 \text{ V}$ | |
| I_{IL} | Input LOW Current | | | | -0.4 | mA | $V_{CC} = \text{MAX}$, $V_{IN} = 0.4 \text{ V}$ | |
| I_{CC} | Power Supply Current Total, Output HIGH | | | | 1.6 | mA | $V_{CC} = \text{MAX}$ | |
| | Total, Output LOW | | | | 4.4 | | | |

AC CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

| Symbol | Parameter | | Limits | | | Unit | Test Conditions | |
|-----------|---------------------------------|--|--------|-----|-----|------|---------------------------------------------------------------------------------|--|
| | | | Min | Typ | Max | | | |
| t_{PLH} | Turn-Off Delay, Input to Output | | | 17 | 32 | ns | $V_{CC} = 5.0 \text{ V}$ $C_L = 15 \text{ pF}$, $R_L = 2.0 \text{ k}\Omega$ | |
| t_{PHL} | Turn-On Delay, Input to Output | | | 15 | 28 | ns | | |