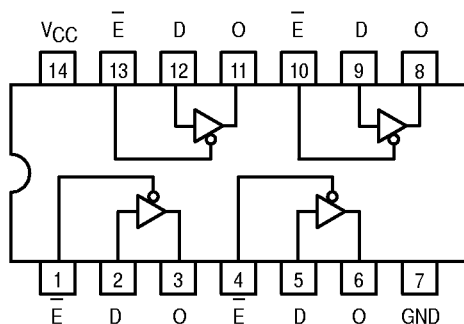


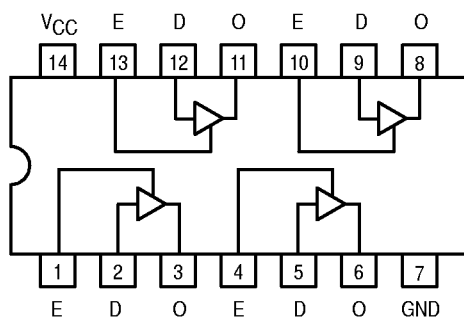


QUAD 3-STATE BUFFERS

SN54/74LS125A SN54/74LS126A



LS125A



LS126A

TRUTH TABLES

LS125A

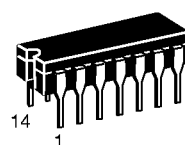
| INPUTS | | OUTPUT |
|--------|---|--------|
| E | D | |
| L | L | L |
| L | H | H |
| H | X | (Z) |

LS126A

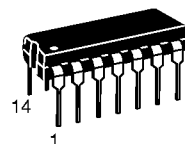
| INPUTS | | OUTPUT |
|--------|---|--------|
| E | D | |
| H | L | L |
| H | H | H |
| L | X | (Z) |

L = LOW Voltage Level
H = HIGH Voltage Level
X = Don't Care
(Z) = High Impedance (off)

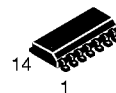
QUAD 3-STATE BUFFERS LOW POWER SCHOTTKY



J SUFFIX
CERAMIC
CASE 632-08



N SUFFIX
PLASTIC
CASE 646-06



D SUFFIX
SOIC
CASE 751A-02

ORDERING INFORMATION

SN54LSXXXJ Ceramic
SN74LSXXXN Plastic
SN74LSXXXD SOIC

GUARANTEED OPERATING RANGES

| Symbol | Parameter | | Min | Typ | Max | Unit |
|-----------------|-------------------------------------|----|------|------|------|------|
| V _{CC} | Supply Voltage | 54 | 4.5 | 5.0 | 5.5 | V |
| | | 74 | 4.75 | 5.0 | 5.25 | |
| T _A | Operating Ambient Temperature Range | 54 | -55 | 25 | 125 | °C |
| | | 74 | 0 | 25 | 70 | |
| I _{OH} | Output Current — High | 54 | | | -1.0 | mA |
| 74 | | | | -2.6 | | |
| I _{OL} | Output Current — Low | 54 | | | 12 | mA |
| | | 74 | | | 24 | |

SN54/74LS125A • SN54/74LS126A

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} = MIN, I _{IN} = -18 mA | |
| V _{OH} | Output HIGH Voltage | 54 | 2.4 | | | V | V _{CC} = MIN, I _{OH} = MAX, V _{IN} = V _{IH} or V _{IL} per Truth Table | |
| | | 74 | 2.4 | | | V | | |
| V _{OL} | Output LOW Voltage | 54, 74 | | 0.25 | 0.4 | V | I _{OL} = 12 mA | V _{CC} = V _{CC} MIN, V _{IN} = V _{IL} or V _{IH} per Truth Table |
| | | 74 | | 0.35 | 0.5 | V | | |
| I _{OZH} | Output Off Current HIGH | | | | 20 | μA | V _{CC} = MAX, V _{OUT} = 2.4 V | |
| I _{OZL} | Output Off Current LOW | | | | -20 | μA | V _{CC} = MAX, V _{OUT} = 0.4 V | |
| I _{IH} | Input HIGH Current | | | | 20 | μA | V _{CC} = MAX, V _{IN} = 2.7 V | |
| | | | | | 0.1 | mA | V _{CC} = MAX, V _{IN} = 7.0 V | |
| I _{IL} | Input LOW Current | | | | -0.4 | mA | V _{CC} = MAX, V _{IN} = 0.4 V | |
| I _{OS} | Short Circuit Current (Note 1) | | -40 | | -225 | mA | V _{CC} = MAX | |
| I _{CC} | Power Supply Current | LS125A | | | 20 | mA | V _{CC} = MAX | V _{IN} = 0 V, V _E = 4.5 V |
| | | LS126A | | | 22 | | | V _{IN} = 0 V, V _E = 0 V |

Note 1: Not more than one output should be shorted at a time, nor for more than 1 second.

AC CHARACTERISTICS (T_A = 25°C)

| Symbol | Parameter | | Limits | | | Unit | Test Conditions | |
|------------------|-------------------------------------|--------|--------|-----|-----|------|-----------------|---|
| | | | Min | Typ | Max | | | |
| t _{PLH} | Propagation Delay, Data to Output | LS125A | | 9.0 | 15 | ns | Figure 2 | V _{CC} = 5.0 V C _L = 45 pF R _L = 667 Ω |
| t _{PLH} | | LS126A | | 9.0 | 15 | | | |
| t _{PHL} | | LS125A | | 7.0 | 18 | | | |
| t _{PHL} | | LS126A | | 8.0 | 18 | | | |
| t _{PZH} | Output Enable Time to HIGH Level | LS125A | | 12 | 20 | ns | Figures 4, 5 | |
| | | LS126A | | 16 | 25 | | | |
| t _{PZL} | Output Enable Time to LOW Level | LS125A | | 15 | 25 | ns | Figures 3, 5 | |
| | | LS126A | | 21 | 35 | | | |
| t _{PHZ} | Output Disable Time from HIGH Level | LS125A | | | 20 | ns | Figures 4, 5 | |
| | | LS126A | | | 25 | | | |
| t _{PLZ} | Output Disable Time from LOW Level | LS125A | | | 20 | ns | Figures 3, 5 | |
| | | LS126A | | | 25 | | | |

SN54/74LS125A • SN54/74LS126A

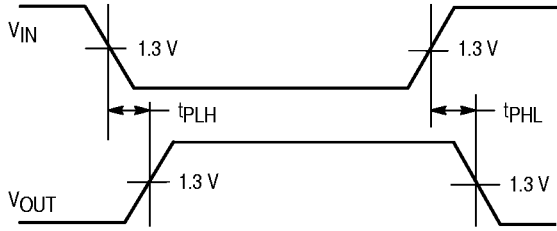


Figure 1

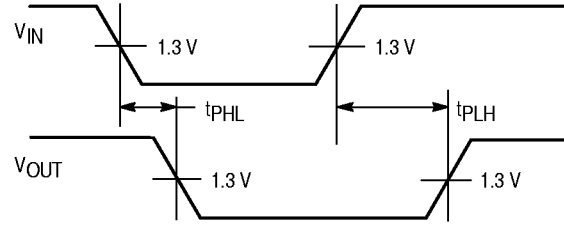


Figure 2

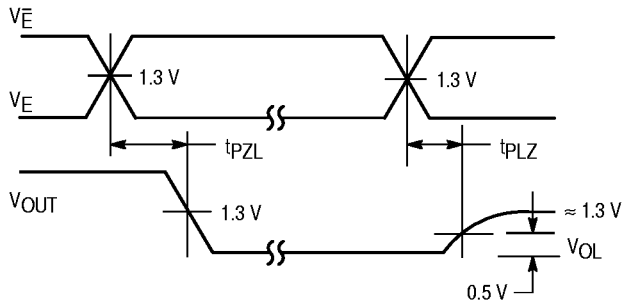


Figure 3

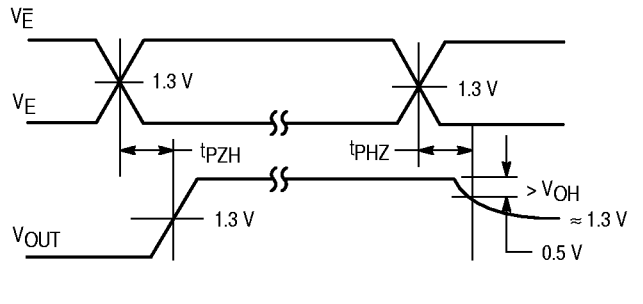


Figure 4

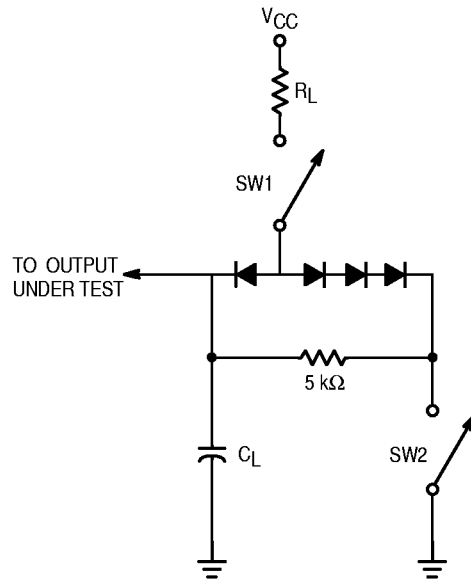


Figure 5

SWITCH POSITIONS

| SYMBOL | SW1 | SW2 |
|-----------|--------|--------|
| t_{PZH} | Open | Closed |
| t_{PZL} | Closed | Open |
| t_{PLZ} | Closed | Closed |
| t_{PHZ} | Closed | Closed |