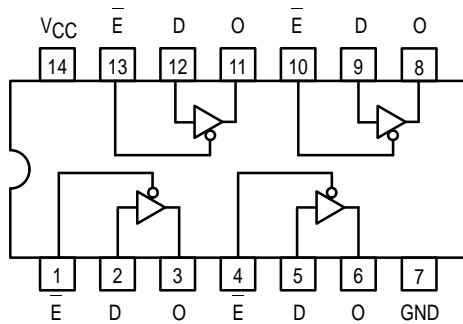


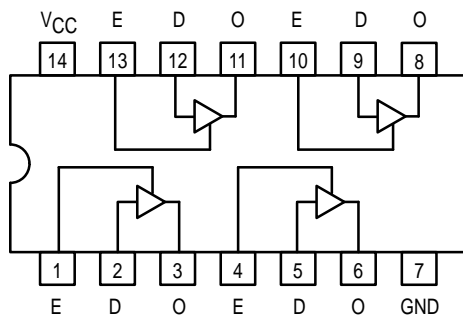


# QUAD 3-STATE BUFFERS

## SN54/74LS125A SN54/74LS126A



LS125A



LS126A

### TRUTH TABLES

LS125A

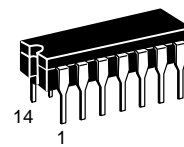
INPUTS		OUTPUT
E	D	
L	L	L
L	H	H
H	X	(Z)

LS126A

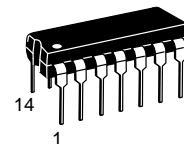
INPUTS		OUTPUT
E	D	
H	L	L
H	H	H
L	X	(Z)

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

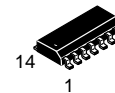
### QUAD 3-STATE BUFFERS LOW POWER SCHOTTKY



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 <sub>CC</sub>	Supply Voltage	54 74	4.5 4.75	5.0 5.0	5.5 5.25	V
T <sub>A</sub>	Operating Ambient Temperature Range	54 74	-55 0	25 25	125 70	°C
I <sub>OH</sub>	Output Current — High	54 74			-1.0 -2.6	mA
I <sub>OL</sub>	Output Current — Low	54 74			12 24	mA

# SN54/74LS125A • SN54/74LS126A

## DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter		Limits			Unit	Test Conditions	
			Min	Typ	Max			
V <sub>IH</sub>	Input HIGH Voltage		2.0			V	Guaranteed Input HIGH Voltage for All Inputs	
V <sub>IL</sub>	Input LOW Voltage	54			0.7	V	Guaranteed Input LOW Voltage for All Inputs	
		74			0.8			
V <sub>IK</sub>	Input Clamp Diode Voltage			-0.65	-1.5	V	V <sub>CC</sub> = MIN, I <sub>IN</sub> = -18 mA	
V <sub>OH</sub>	Output HIGH Voltage	54	2.4			V	V <sub>CC</sub> = MIN, I <sub>OH</sub> = MAX, V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> per Truth Table	
		74	2.4			V		
V <sub>OL</sub>	Output LOW Voltage	54, 74		0.25	0.4	V	I <sub>OL</sub> = 12 mA	V <sub>CC</sub> = V <sub>CC</sub> MIN, V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub> per Truth Table
		74		0.35	0.5	V	I <sub>OL</sub> = 24 mA	
I <sub>OZH</sub>	Output Off Current HIGH				20	μA	V <sub>CC</sub> = MAX, V <sub>OUT</sub> = 2.4 V	
I <sub>OZL</sub>	Output Off Current LOW				-20	μA	V <sub>CC</sub> = MAX, V <sub>OUT</sub> = 0.4 V	
I <sub>IH</sub>	Input HIGH Current				20	μA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = 2.7 V	
					0.1	mA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = 7.0 V	
I <sub>IL</sub>	Input LOW Current				-0.4	mA	V <sub>CC</sub> = MAX, V <sub>IN</sub> = 0.4 V	
I <sub>OS</sub>	Short Circuit Current (Note 1)		-40		-225	mA	V <sub>CC</sub> = MAX	
I <sub>CC</sub>	Power Supply Current	LS125A			20	mA	V <sub>CC</sub> = MAX	V <sub>IN</sub> = 0 V, V <sub>E</sub> = 4.5 V
		LS126A			22			V <sub>IN</sub> = 0 V, V <sub>E</sub> = 0 V

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

## AC CHARACTERISTICS (T<sub>A</sub> = 25°C)

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

# SN54/74LS125A • SN54/74LS126A

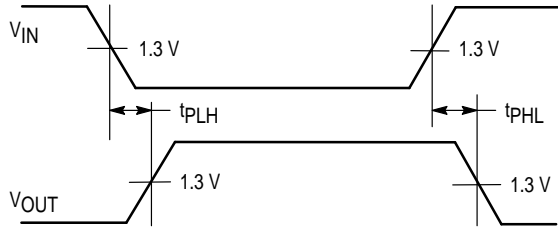


Figure 1

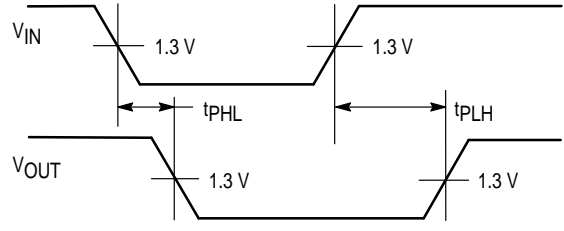


Figure 2

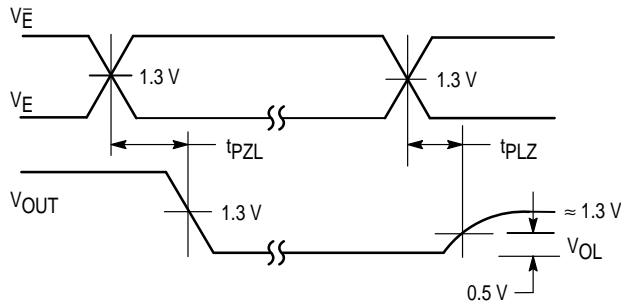


Figure 3

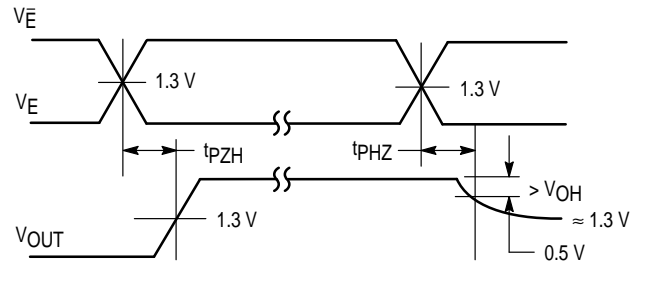


Figure 4

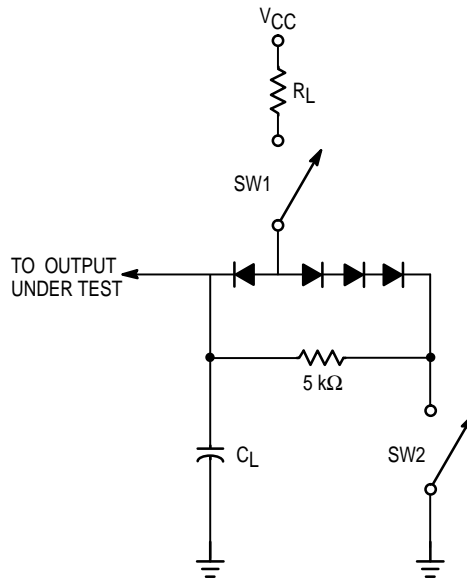


Figure 5

## SWITCH POSITIONS

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