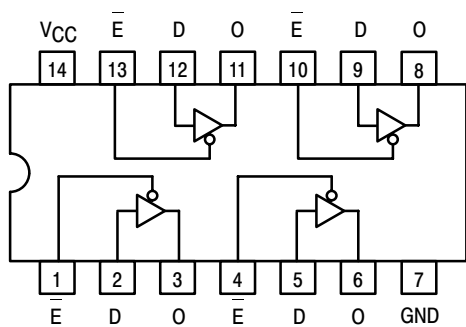
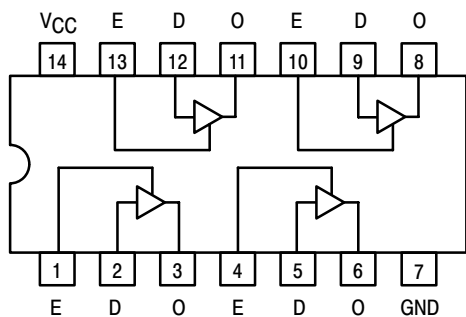


# SN74LS125A, SN74LS126A

## Quad 3-State Buffers



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)

### GUARANTEED OPERATING RANGES

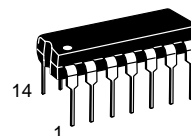
Symbol	Parameter	Min	Typ	Max	Unit
V <sub>CC</sub>	Supply Voltage	4.75	5.0	5.25	V
T <sub>A</sub>	Operating Ambient Temperature Range	0	25	70	°C
I <sub>OH</sub>	Output Current – High			-2.6	mA
I <sub>OL</sub>	Output Current – Low			24	mA



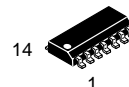
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<http://onsemi.com>

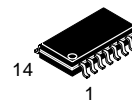
**LOW  
POWER  
SCHOTTKY**



PLASTIC  
N SUFFIX  
CASE 646



SOIC  
D SUFFIX  
CASE 751A



SOEIAJ  
M SUFFIX  
CASE 965

### ORDERING INFORMATION

Device	Package	Shipping
SN74LS125AN	14 Pin DIP	2000 Units/Box
SN74LS125AD	SOIC-14	55 Units/Rail
SN74LS125ADR2	SOIC-14	2500/Tape & Reel
SN74LS125AM	SOEIAJ-14	See Note 1
SN74LS125AMEL	SOEIAJ-14	See Note 1
SN74LS126AN	14 Pin DIP	2000 Units/Box
SN74LS126AD	SOIC-14	55 Units/Rail
SN74LS126ADR2	SOIC-14	2500/Tape & Reel
SN74LS126AM	SOEIAJ-14	See Note 1
SN74LS126AMEL	SOEIAJ-14	See Note 1

1. For ordering information on the EIAJ version of the SOIC package, please contact your local ON Semiconductor representative.

# SN74LS125A, SN74LS126A

## 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			0.8	V	Guaranteed Input LOW Voltage for All Inputs	
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	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	
V <sub>OL</sub>	Output LOW Voltage		0.25	0.4	V	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	
			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 2)	-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

2. 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
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		

# SN74LS125A, SN74LS126A

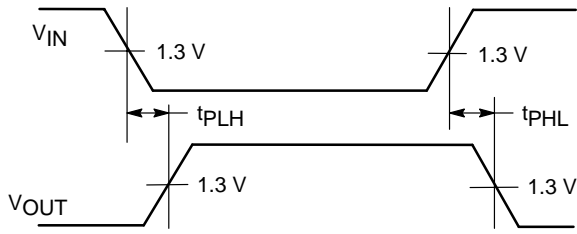


Figure 1.

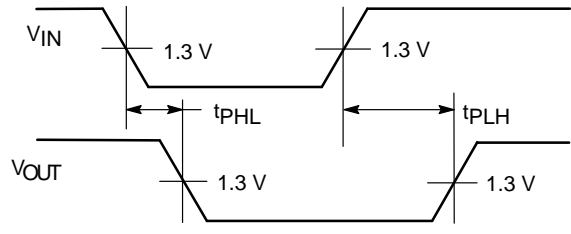


Figure 2.

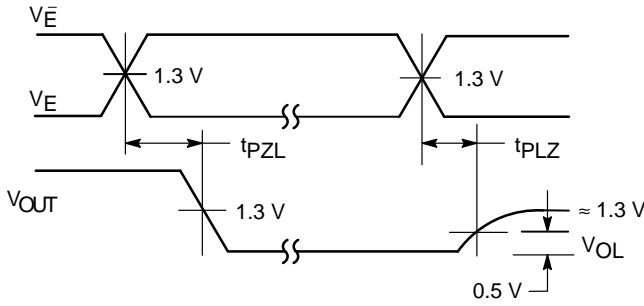


Figure 3.

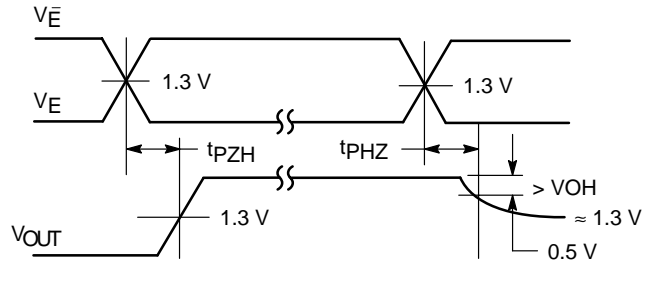


Figure 4.

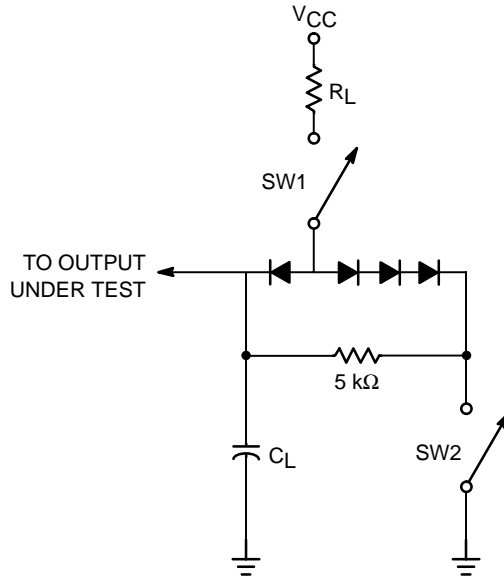


Figure 5.

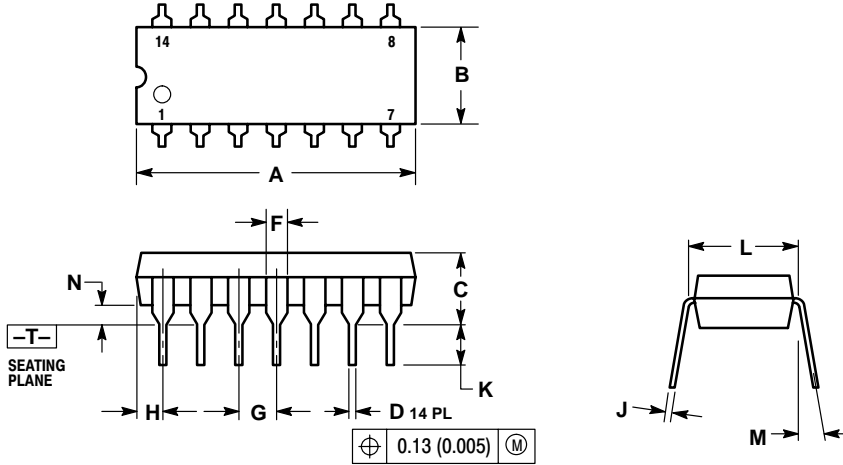
## SWITCH POSITIONS

SYMBOL	SW1	SW2
tPZH	Open	Closed
tPZL	Closed	Open
tPLZ	Closed	Closed
tPHZ	Closed	Closed

# SN74LS125A, SN74LS126A

## PACKAGE DIMENSIONS

**N SUFFIX**  
 PLASTIC PACKAGE  
 CASE 646-06  
 ISSUE M



**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION L TO CENTER OF LEADS WHEN FORMED PARALLEL.
4. DIMENSION B DOES NOT INCLUDE MOLD FLASH.
5. ROUNDED CORNERS OPTIONAL.

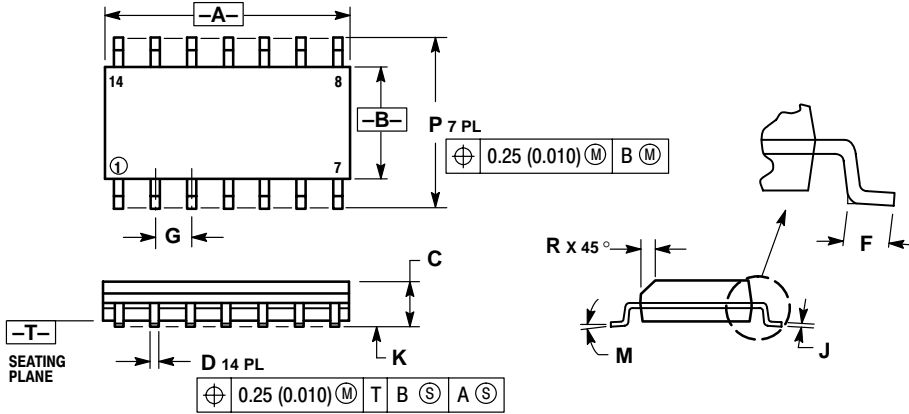
DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.715	0.770	18.16	18.80
B	0.240	0.260	6.10	6.60
C	0.145	0.185	3.69	4.69
D	0.015	0.021	0.38	0.53
F	0.040	0.070	1.02	1.78
G	0.100 BSC		2.54 BSC	
H	0.052	0.095	1.32	2.41
J	0.008	0.015	0.20	0.38
K	0.115	0.135	2.92	3.43
L	0.290	0.310	7.37	7.87
M	---		10°	
N	0.015	0.039	0.38	1.01

# SN74LS125A, SN74LS126A

## PACKAGE DIMENSIONS

**D SUFFIX**  
 PLASTIC SOIC PACKAGE  
 CASE 751A-03  
 ISSUE F

- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: MILLIMETER.
  3. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
  4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
  5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

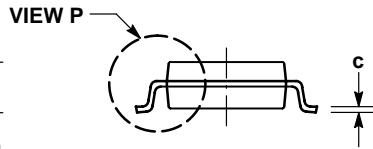
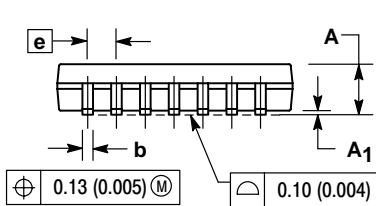
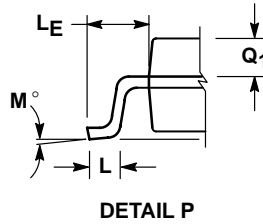
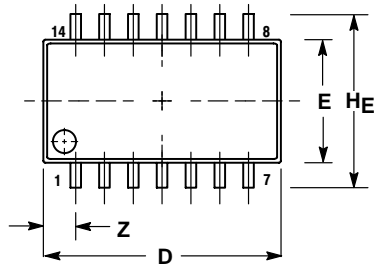


DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	8.55	8.75	0.337	0.344
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27 BSC		0.050 BSC	
J	0.19	0.25	0.008	0.009
K	0.10	0.25	0.004	0.009
M	0° - 7°		0° - 7°	
P	5.80	6.20	0.228	0.244
R	0.25	0.50	0.010	0.019

# SN74LS125A, SN74LS126A

## PACKAGE DIMENSIONS

**M SUFFIX**  
**SOEIAJ PACKAGE**  
**CASE 965-01**  
**ISSUE O**



**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS AND ARE MEASURED AT THE PARTING LINE. MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED 0.15 (0.006) PER SIDE.
4. TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY.
5. THE LEAD WIDTH DIMENSION (b) DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08 (0.003) TOTAL IN EXCESS OF THE LEAD WIDTH DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT. MINIMUM SPACE BETWEEN PROTRUSIONS AND ADJACENT LEAD TO BE 0.46 (0.018).

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	---	2.05	---	0.081
A <sub>1</sub>	0.05	0.20	0.002	0.008
b	0.35	0.50	0.014	0.020
c	0.18	0.27	0.007	0.011
D	9.90	10.50	0.390	0.413
E	5.10	5.45	0.201	0.215
e	1.27 BSC		0.050 BSC	
HE	7.40	8.20	0.291	0.323
0.50	0.50	0.85	0.020	0.033
L <sub>E</sub>	1.10	1.50	0.043	0.059
M	0°	10°	0°	10°
Q <sub>1</sub>	0.70	0.90	0.028	0.035
Z	---	1.42	---	0.056

## Notes

# SN74LS125A, SN74LS126A

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