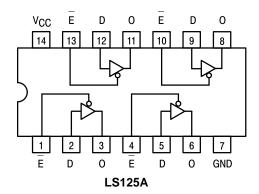
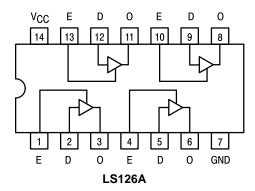


# **QUAD 3-STATE BUFFERS**





### **TRUTH TABLES**

### LS125A

INP	UTS	
Е	D	OUTPUT
L	L	L
L	Н	Н
Н	Х	(Z)

### LS126A

INPUTS		
Е	D	OUTPUT
Н	L	L
Н	Н	Н
L	Х	(Z)

L = LOW Voltage Level H = HIGH Voltage Level X = Don't Care

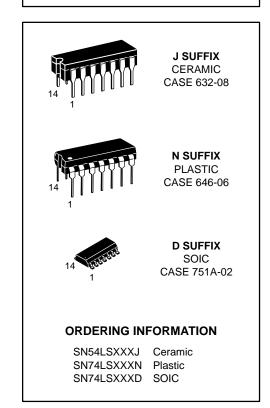
(Z) = High Impedance (off)

### **GUARANTEED OPERATING RANGES**

Symbol	Parameter		Min	Тур	Max	Unit
VCC	Supply Voltage	54 74	4.5 4.75	5.0 5.0	5.5 5.25	V
TA	Operating Ambient Temperature Range	54 74	-55 0	25 25	125 70	°C
IOH	Output Current — High	54 74			-1.0 -2.6	mA
lOL	Output Current — Low	54 74			12 24	mA

# SN54/74LS125A SN54/74LS126A

### **QUAD 3-STATE BUFFERS LOW POWER SCHOTTKY**



## SN54/74LS125A • SN54/74LS126A

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

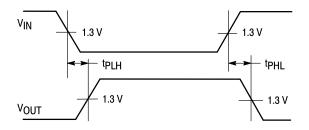
		Limits							
Symbol	Parameter		Min Typ Max		Unit	Test Conditions			
VIH	Input HIGH Voltage		2.0			V	Guaranteed Input HIGH Voltage for All Inputs		
\/	Input LOW Voltage	54			0.7	٧	Guaranteed In	put LOW Voltage for	
VIL	Input LOW Voltage	74			0.8	1 '	All Inputs		
VIK	Input Clamp Diode Voltage			-0.65	-1.5	V	V <sub>CC</sub> = MIN, I <sub>I</sub>	N = -18 mA	
V	0 ( (111011)/ 15		2.4			V	V <sub>CC</sub> = MIN, I <sub>OH</sub> = MAX, V <sub>IN</sub> = \		
VOH	Output HIGH Voltage	74	2.4			V	or V <sub>IL</sub> per Truth Table		
Va	Output LOW Voltage	54, 74		0.25	0.4	V	$I_{OL} = 12 \text{ mA}$ $V_{CC} = V_{CC} \text{ M}$	V <sub>CC</sub> = V <sub>CC</sub> MIN, V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub>	
VOL	Output LOW Voltage	74		0.35	0.5	V		per Truth Table	
lozh	Output Off Current HIGH				20	μΑ	V <sub>CC</sub> = MAX, \	/ <sub>OUT</sub> = 2.4 V	
lozL	Output Off Current LOW				-20	μΑ	V <sub>CC</sub> = MAX, \	/ <sub>OUT</sub> = 0.4 V	
l	Innut IIICI I Current				20	μΑ	V <sub>CC</sub> = MAX, \	/ <sub>IN</sub> = 2.7 V	
lΗ	Input HIGH Current				0.1	mA	V <sub>CC</sub> = MAX, \	/ <sub>IN</sub> = 7.0 V	
IIL	Input LOW Current				-0.4	mA	V <sub>CC</sub> = MAX, \	/ <sub>IN</sub> = 0.4 V	
los	Short Circuit Current (Note	1)	-40		-225	mA	V <sub>CC</sub> = MAX		
1	Dawer Cumby Cument	LS125A			20		V MAY	V <sub>IN</sub> = 0 V, V <sub>E</sub> = 4.5 V	
lcc	Power Supply Current LS126A				22	mA	$V_{CC} = MAX$ $V_{IN} = 0 \text{ V}, V_{E} = 4.5 \text{ V}$ $V_{IN} = 0 \text{ V}, V_{E} = 0 \text{ V}$		

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

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

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

# SN54/74LS125A • SN54/74LS126A



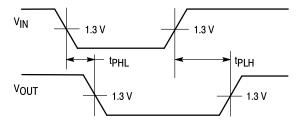
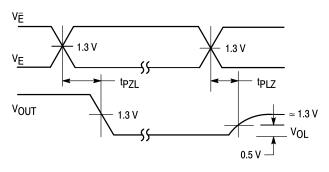


Figure 1

Figure 2



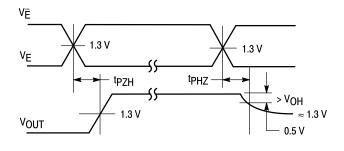


Figure 3

Figure 4

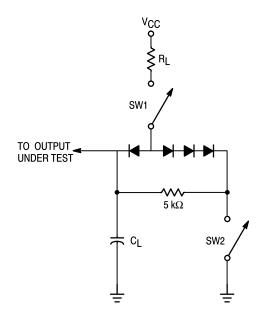
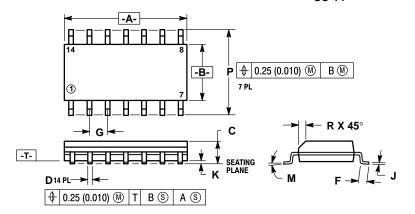


Figure 5

### **SWITCH POSITIONS**

SYMBOL	SW1	SW2
<sup>t</sup> PZH	Open	Closed
<sup>t</sup> PZL	Closed	Open
tPLZ	Closed	Closed
<sup>t</sup> PHZ	Closed	Closed

### Case 751A-02 D Suffix 14-Pin Plastic **SO-14**

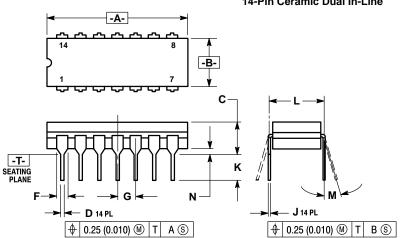


### NOTES:

- DIMENSIONS "A" AND "B" ARE DATUMS AND
  "T" IS A DATUM SURFACE.
- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: MILLIMETER.
  DIMENSION A AND B DO NOT INCLUDE MOLD
- PROTRUSION.
  MAXIMUM MOLD PROTRUSION 0.15 (0.006)
- 751A-01 IS OBSOLETE, NEW STANDARD 751A-02.

	MILLIM	ETERS	INC	HES	
DIM	MIN MAX		MIN	MAX	
Α	8.55	8.75	0.337	0.344	
В	3.80	4.00	0.150	0.157	
С	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°	
Р	5.80	6.20	0.229	0.244	
R	0.25	0.50	0.010	0.019	

### Case 632-08 J Suffix 14-Pin Ceramic Dual In-Line



### NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- Y14-5M, 1982.

  C CONTROLLING DIMENSION: INCH.

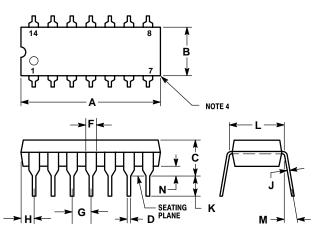
  DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.

  DIM F MAY NARROW TO 0.76 (0.030) WHERE THE LEAD ENTERS THE CERAMIC BODY.

  5. 632-01 THRU-07 OBSOLETE, NEW STANDARD

	MILLIM	ETERS	INC	HES	
DIM	MIN	MAX	MIN	MAX	
Α	19.05	19.94	0.750	0.785	
В	6.23	7.11	0.245	0.280	
С	3.94	5.08	0.155	0.200	
D	0.39	0.50	0.015	0.020	
F	1.40	1.65	0.055	0.065	
G	2.54	BSC	0.100 BSC		
J	0.21	0.38	0.008	0.015	
K	3.18	4.31	0.125	0.170	
L	7.62 BSC		0.300 BSC		
M	0°	15°	0°	15°	
N	0.51	1.01	0.020	0.040	

### Case 646-06 N Suffix 14-Pin Plastic



- NOTES:
  1. LEADS WITHIN 0.13 mm (0.005) RADIUS OF TRUE TO STATE OF THE ST
- FLASH
- ROUNDED CORNERS OPTIONAL. 646-05 OBSOLETE, NEW STANDARD 646-06.

	MILLIM	ETERS	INC	HES	
DIM	MIN	MAX	MIN	MAX	
Α	18.16	19.56	0.715	0.770	
В	6.10	6.60	0.240	0.260	
С	3.69	4.69	0.145	0.185	
D	0.38	0.53	0.015	0.021	
F	1.02	1.78	0.040	0.070	
G	2.54	BSC	0.100 BSC		
Н	1.32	2.41	0.052	0.095	
J	0.20	0.38	0.008	0.015	
K	2.92	3.43	0.115	0.135	
L	7.62 BSC		0.300	BSC	
М	0°	10°	0°	10°	
N	0.39	1.01	0.015	0.039	

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