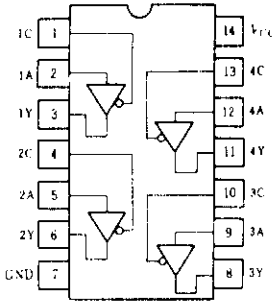


# HD74LS125A • Quadruple Bus Buffer Gates (with three-state outputs)

## ■ PIN ARRANGEMENT



(Top View)

## ■ FUNCTION TABLE

Inputs		Outputs
C	A	Y
H	X	Z
L	L	L
L	H	H

Note) H; high level,  
L; low level,  
X; irrelevant  
Z; off (high-impedance) state  
of a 3-state output

## ■ RECOMMENDED OPERATING CONDITIONS

Item	Symbol	min	typ	max	Unit
High level output current	$I_{OH}$	—	—	-2.6	mA
Low level output current	$I_{OL}$	—	—	24	mA

## ■ ELECTRICAL CHARACTERISTICS ( $T_a = -20 \sim +75^\circ\text{C}$ )

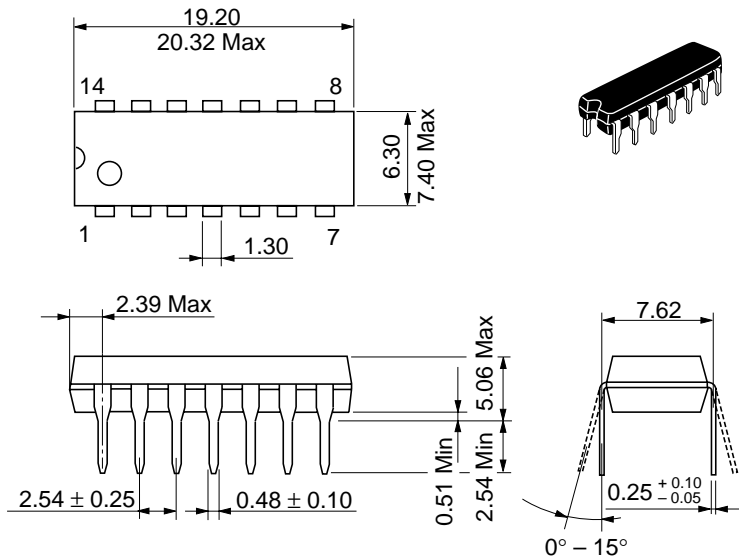
Item	Symbol	Test Conditions	min	typ*	max	Unit	
Input voltage	$V_{IH}$		2.0	—	—	V	
	$V_{IL}$		—	—	0.8	V	
Output voltage	$V_{OH}$	$V_{CC}=4.75\text{V}, V_{IH}=2\text{V}, V_{IL}=0.8\text{V}, I_{OH}=-2.6\text{mA}$	2.4	—	—	V	
	$V_{OL}$	$V_{CC}=4.75\text{V}, V_{IH}=2\text{V}, V_{IL}=0.8\text{V}$	$I_{OL}=24\text{mA}$	—	—	0.5	V
			$I_{OL}=12\text{mA}$	—	—	0.4	
Off-state output current	$I_{OZ}$	$V_{CC}=5.25\text{V}, V_{IH}=2\text{V}, V_{IL}=0.8\text{V}$	$V_O=2.4\text{V}$	—	—	20	$\mu\text{A}$
			$V_O=0.4\text{V}$	—	—	-20	
Input current	$I_{IH}$	$V_{CC}=5.25\text{V}, V_I=2.7\text{V}$	—	—	20	$\mu\text{A}$	
	$I_{IL}$	$V_{CC}=5.25\text{V}, V_I=0.4\text{V}$	—	—	-0.4	mA	
	$I_I$	$V_{CC}=5.25\text{V}, V_I=7\text{V}$	—	—	0.1	mA	
Short-circuit output current	$I_{OS}$	$V_{CC}=5.25\text{V}$	-40	—	-225	mA	
Supply current	$I_{CC}$	$V_{CC}=5.25\text{V}$	—	11	20	mA	
Input clamp voltage	$V_{IK}$	$V_{CC}=4.75\text{V}, I_{IN}=-18\text{mA}$	—	—	-1.5	V	

\*  $V_{CC}=5\text{V}, T_a=25^\circ\text{C}$

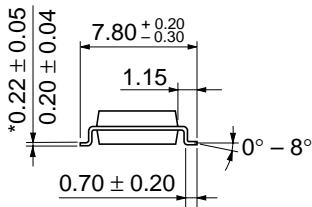
## ■ SWITCHING CHARACTERISTICS ( $V_{CC}=5\text{V}, T_a=25^\circ\text{C}$ )

Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	$t_{PLH}$	$C_L=45\text{pF}$ $R_L=667\Omega$	—	9	15	ns
	$t_{PHL}$		—	7	18	
Output enable time	$t_{ZH}$		—	12	20	
	$t_{ZL}$		—	15	25	
Output disable time	$t_{HZ}$	$C_L=5\text{pF}$	—	—	20	
	$t_{LZ}$	$R_L=667\Omega$	—	—	20	

Note) Refer to Test Circuit and Waveform of the Common Item



Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.23 g

\*Dimension including the plating thickness  
Base material dimension



Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.13 g

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