

To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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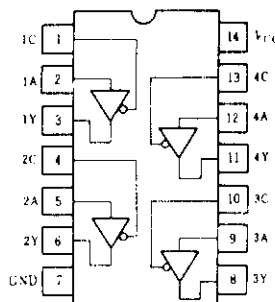
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HD74LS125A • Quadruple Bus Buffer Gates (with three-state outputs)

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	
	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	μA
			$V_O=0.4\text{V}$	—	20	
Input current	I_{IH}	$V_{CC}=5.25\text{V}$, $V_I=2.7\text{V}$	—	—	20	μA
	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}	$C_L=5\text{pF}$ $R_L=667\Omega$	—	—	20	
	t_{LZ}		—	—	20	

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

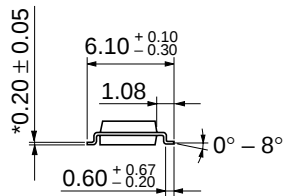


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



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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