

# HD74LS37

# **Quadruple 2-input Positive NAND Buffers**

REJ03D0406-0200 Rev.2.00 Feb.18.2005

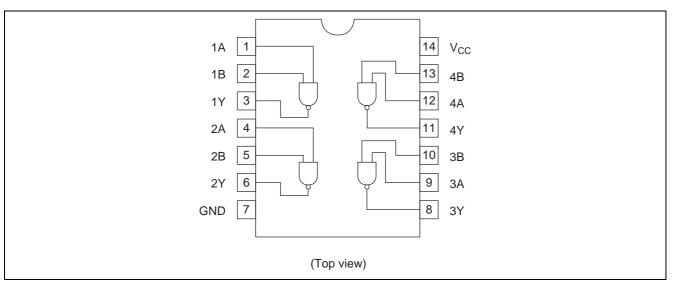
### Features

• Ordering Information

Part Name	Package Type	Package Code (Previous Code)	Package Abbreviation	Taping Abbreviation (Quantity)
HD74LS37P	DILP-14 pin	PRDP0014AB-B (DP-14AV)	Ρ	_
HD74LS37FPEL	SOP-14 pin (JEITA)	PRSP0014DF-B (FP-14DAV)	FP	EL (2,000 pcs/reel)

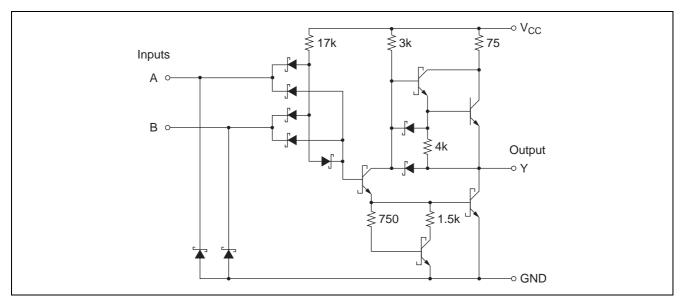
Note: Please consult the sales office for the above package availability.

### **Pin Arrangement**





## **Circuit Schematic (1/4)**



### **Absolute Maximum Ratings**

Item	Symbol	Ratings	Unit
Supply voltage	V <sub>CC</sub>	7	V
Input voltage	V <sub>IN</sub>	7	V
Power dissipation	PT	400	mW
Storage temperature	Tstg	-65 to +150	°C

Note: Voltage value, unless otherwise noted, are with respect to network ground terminal.

### **Recommended Operating Conditions**

Item	Symbol	Min	Тур	Max	Unit
Supply voltage	V <sub>CC</sub>	4.75	5.00	5.25	V
Output current	I <sub>OH</sub>	—	—	-1.2	mA
Ouput current	I <sub>OL</sub>	—	—	24	mA
Operating temperature	Topr	-20	25	75	°C



## **Electrical Characteristics**

 $(Ta = -20 \text{ to } +75 \text{ }^{\circ}\text{C})$ 

-	min.	typ.*	max.	Unit	Condition
V <sub>IH</sub>	2.0		—	V	
VIL			0.8	V	
V <sub>OH</sub>	2.7	_		V	$V_{CC}$ = 4.75 V, $V_{IL}$ = 0.8 V, $I_{OH}$ = –1.2 mA
V <sub>OL</sub>			0.5	V	$I_{OL} = 24 \text{ mA}$ $V_{CC} = 4.75 \text{ V}, \text{ V}_{IH} = 2 \text{ V}$
			0.4		$I_{OL} = 12 \text{ mA}$ $V_{CC} = 4.75 \text{ V}, \text{ V}_{H} = 2 \text{ V}$
I <sub>IH</sub>	_	_	20	μΑ	$V_{CC} = 5.25 \text{ V}, \text{ V}_{I} = 2.7 \text{ V}$
IIL			-0.4	mA	$V_{CC} = 5.25 \text{ V}, \text{ V}_{I} = 0.4 \text{ V}$
lı –	_	_	0.1	mA	$V_{CC} = 5.25 \text{ V}, \text{ V}_{I} = 7 \text{ V}$
l <sub>os</sub>	-30	Ι	-130	mA	V <sub>CC</sub> = 5.25 V
I <sub>ССН</sub>		0.9	2.0	mA	V <sub>CC</sub> = 5.25 V
I <sub>CCL</sub>	_	6	12	mA	V <sub>CC</sub> = 5.25 V
VIK	_	_	-1.5	V	$V_{CC} = 4.75 \text{ V}, \text{ I}_{IN} = -18 \text{ mA}$
	VIL VOH VOL IIH IIL II IOS ICCH ICCL	VIL         —           VOH         2.7           VOL         —           IIH         —           IIH         —           IIL         —           IIL         —           IIL         —           IIL         —           ILL         —           ILLL	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

Note:  $* V_{CC} = 5 V$ , Ta =  $25^{\circ}C$ 

### **Switching Characteristics**

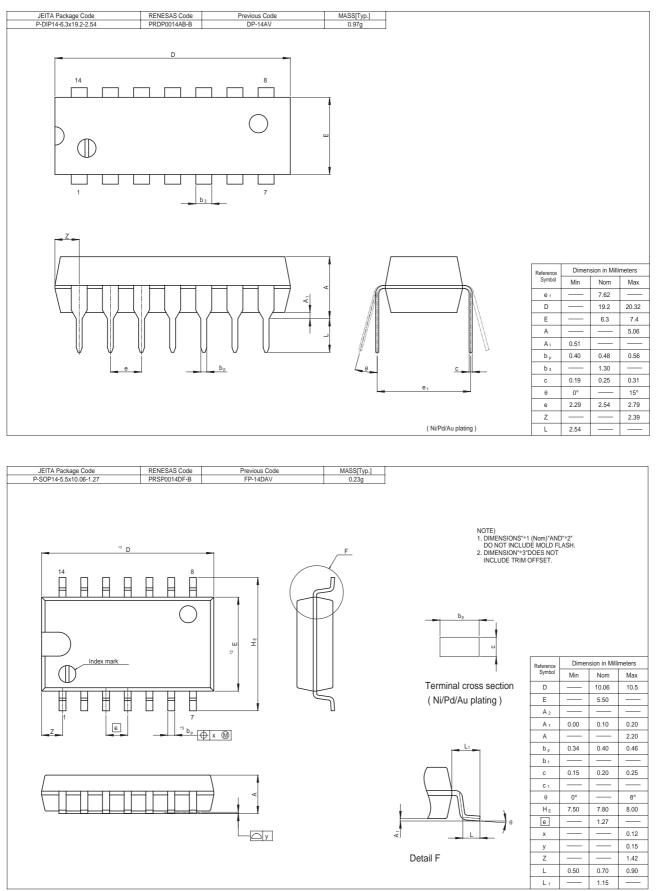
 $(V_{CC} = 5 V, Ta = 25^{\circ}C)$ 

Item	Symbol	min.	typ.	max.	Unit	Condition
Propagation delay time	t <sub>PLH</sub>		12	24	ns	$C_{L} = 45 \text{ pF}, R_{L} = 667 \Omega$
	t <sub>PHL</sub>		12	24	ns	$C_{L} = 43  \mu F,  R_{L} = 607  \Omega_{2}$

Note: Refer to Test Circuit and Waveform of the Common Item "TTL Common Matter (Document No.: REJ27D0005-0100)".



### **Package Dimensions**





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