

# HD74LS07

Hex Buffers / Drivers  
(With Open Collector High-Voltage Outputs)

REJ03D0393-0200

Rev.2.00

Feb.18.2005

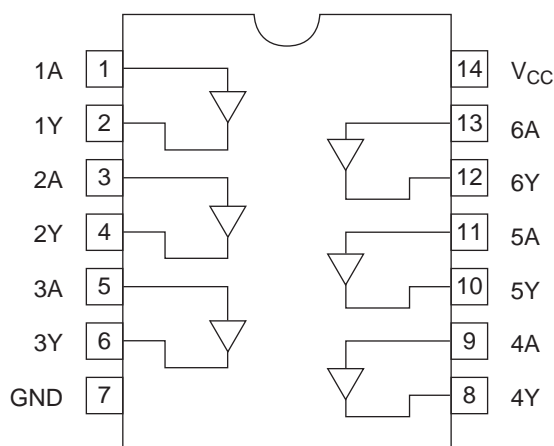
## Features

- Ordering Information

Part Name	Package Type	Package Code (Previous Code)	Package Abbreviation	Taping Abbreviation (Quantity)
HD74LS07P	DILP-14 pin	PRDP0014AB-B (DP-14AV)	P	—
HD74LS07FPEL	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



(Top view)

## Absolute Maximum Ratings

Item	Symbol	Ratings	Unit
Supply voltage	$V_{CC}$ <sup>Note</sup>	7	V
Input voltage	$V_{IN}$	7	V
Output voltage	$V_{OUT}$	30	V
Power dissipation	$P_T$	400	mW
Storage temperature	$T_{stg}$	-65 to +150	°C

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

## Recommended Operating Conditions

Item	Symbol	Min	Typ	Max	Unit
Supply voltage	$V_{CC}$	4.75	5.00	5.25	V
Output voltage	$V_{OH}$	—	—	30	V
Output current	$I_{OL}$	—	—	48	mA
Operating temperature	$T_{opr}$	−20	25	75	°C

## Electrical Characteristics

(Ta = −20 to +75 °C)

Item	Symbol	min.	typ.*	max.	Unit	Condition
Input voltage	$V_{IH}$	2.0	—	—	V	
	$V_{IL}$	—	—	0.8	V	
Output voltage	$V_{OL}$	—	—	0.4	V	$I_{OL} = 24 \text{ mA}$ $I_{OL} = 48 \text{ mA}$ $V_{CC} = 4.75 \text{ V}, V_{IL} = 0.8 \text{ V}$
		—	—	0.5		
Input current	$I_{IH}$	—	—	20	μA	$V_{CC} = 5.25 \text{ V}, V_I = 2.7 \text{ V}$
	$I_{IL}$	—	—	−0.4	mA	$V_{CC} = 5.25 \text{ V}, V_I = 0.4 \text{ V}$
	$I_I$	—	—	0.1	mA	$V_{CC} = 5.25 \text{ V}, V_I = 7 \text{ V}$
Output current	$I_{OH}$	—	—	250	μA	$V_{CC} = 4.75 \text{ V}, V_{IH} = 2 \text{ V}, V_{OH} = 30 \text{ V}$
Supply current	$I_{CCH}$	—	22	41	mA	$V_{CC} = 5.25 \text{ V}$
	$I_{CCL}$	—	17	30	mA	$V_{CC} = 5.25 \text{ V}$
Input clamp voltage	$V_{IK}$	—	—	−1.5	V	$V_{CC} = 4.75 \text{ V}, I_{IN} = -18 \text{ mA}$

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

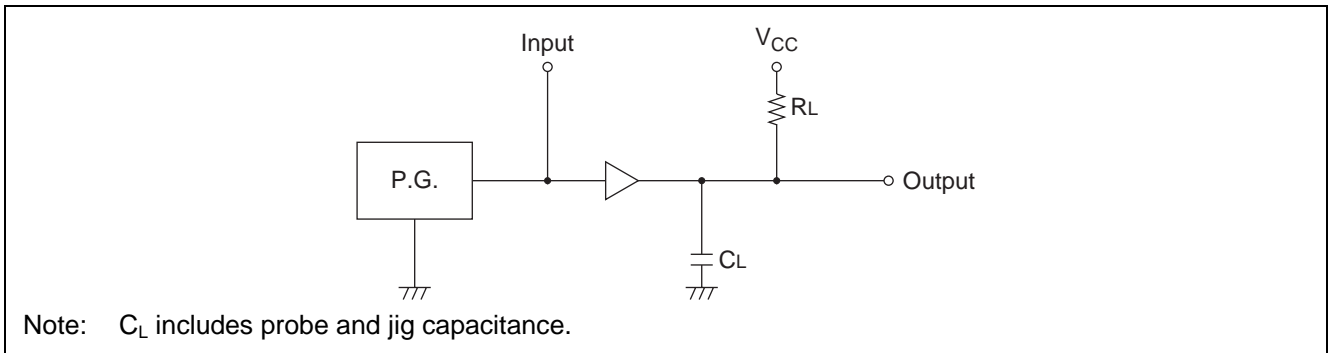
## Switching Characteristics

(V<sub>CC</sub> = 5 V, Ta = 25°C)

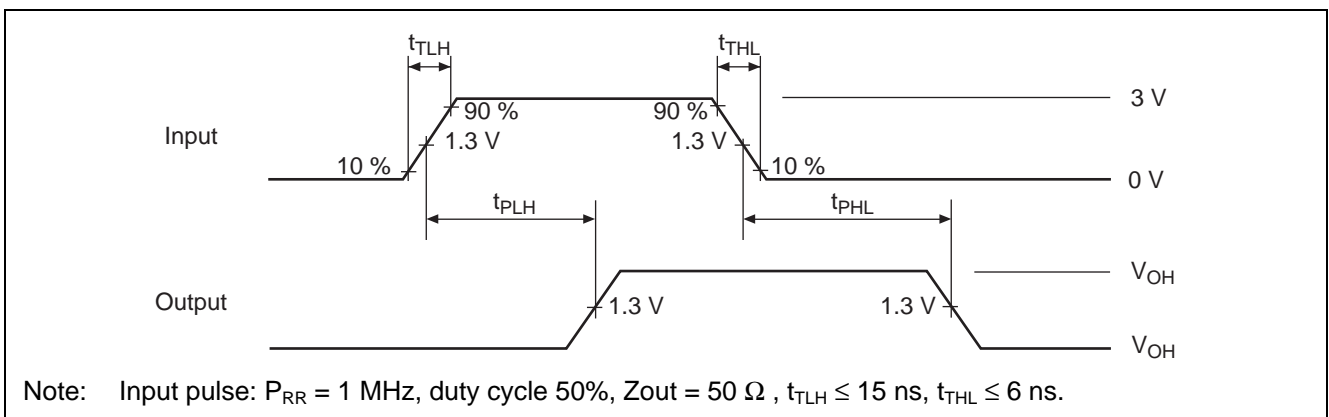
Item	Symbol	min.	typ.	max.	Unit	Condition
Propagation delay time	$t_{PLH}$	—	10	15	ns	$C_L = 15 \text{ pF}, R_L = 100 \Omega$
	$t_{PHL}$	—	20	30	ns	

## Testing Method

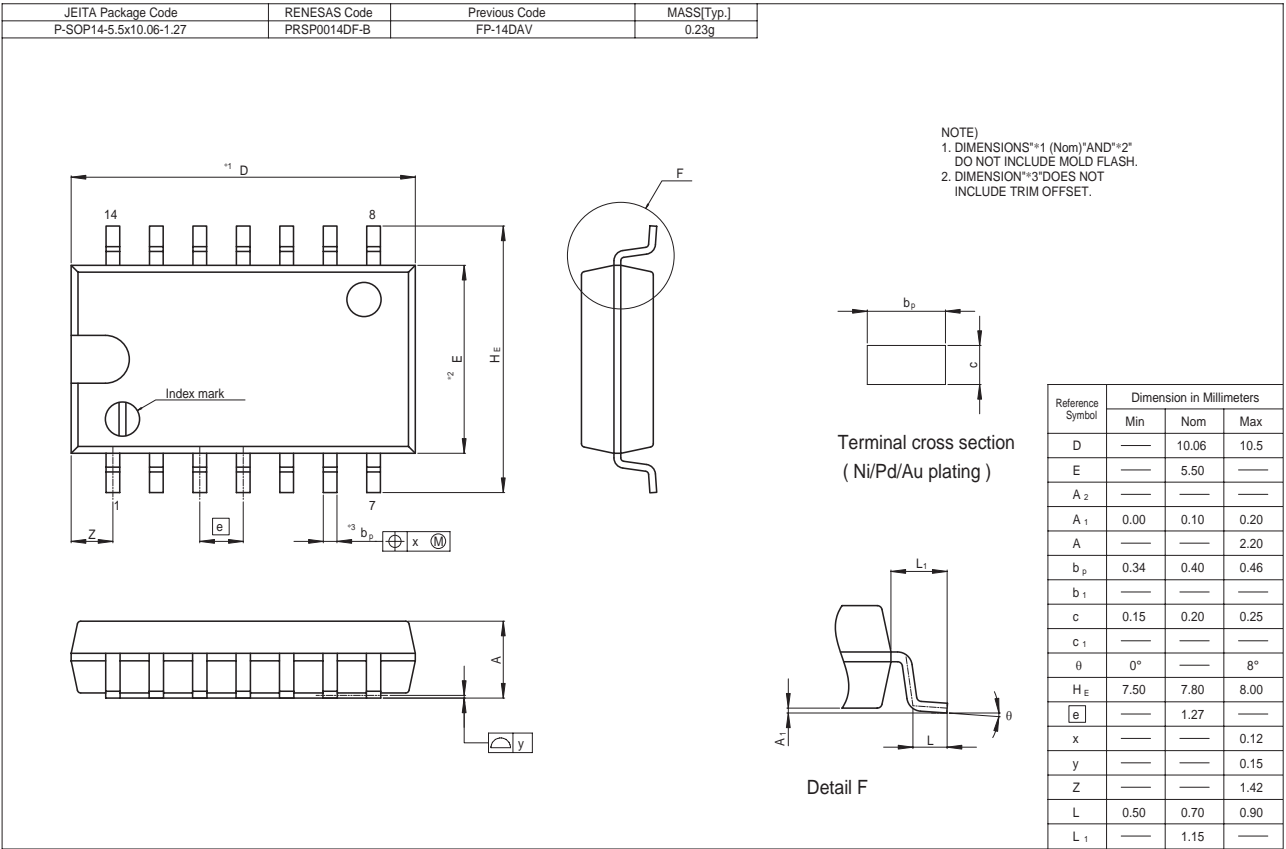
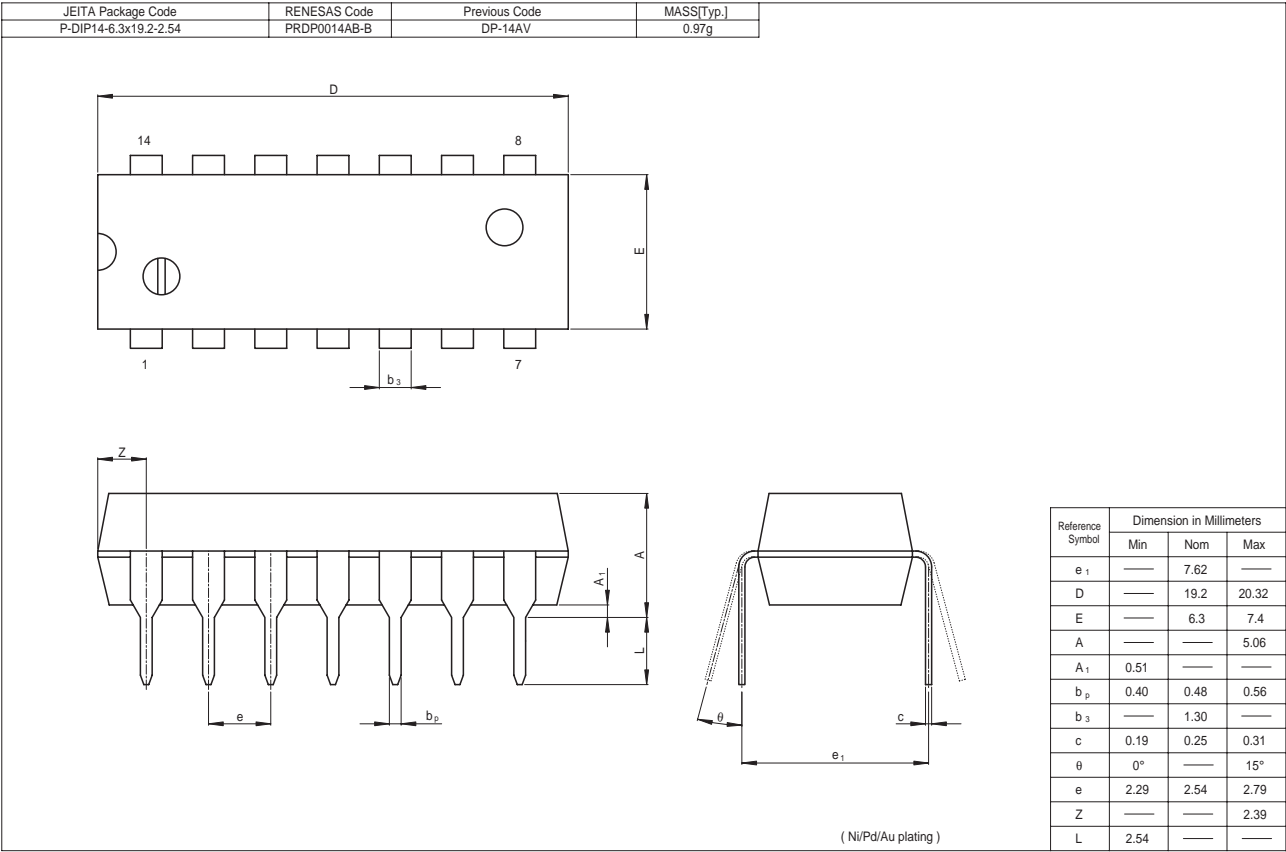
### Test Circuit



### Waveform



Package Dimensions



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