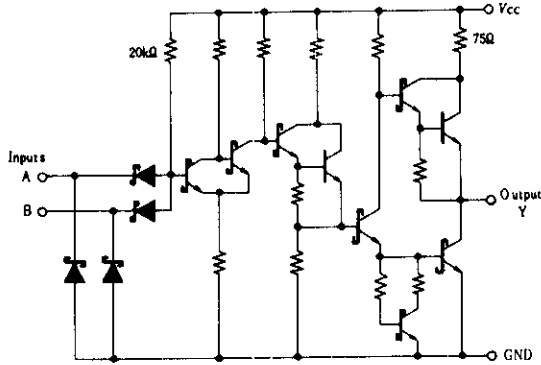
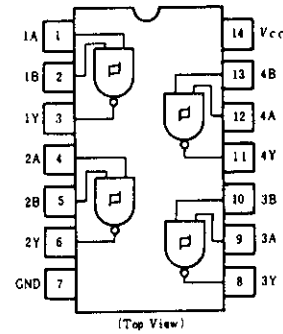


HD74LS132 ● Quadruple 2-input Positive NAND Schmitt-triggers

■ CIRCUIT SCHEMATIC (1/4)



■ PIN ARRANGEMENT



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

Item	Symbol	Test Conditions	min	typ*	max	Unit
Input threshold voltage	V_{T^+}	$V_{CC}=5\text{V}$	1.4	1.6	1.9	V
	V_{T^-}	$V_{CC}=5\text{V}$	0.5	0.7	1.0	V
Hysteresis	$V_{T^+} - V_{T^-}$	$V_{CC}=5\text{V}$	0.4	0.9	—	V
Output voltage	V_{OH}	$V_{CC}=4.75\text{V}$, $I_{OH} = -400\mu\text{A}$, $V_I=0.5\text{V}$	2.7	—	—	V
	V_{OL}	$V_{CC}=4.75\text{V}$, $V_I=1.9\text{V}$	$I_{OL}=8\text{mA}$	—	0.5	V
			$I_{OL}=4\text{mA}$	—	0.4	
Input threshold current	I_{T^+}	$V_{CC}=5\text{V}$, $V_I = V_{T^+}$	—	-0.14	—	mA
	I_{T^-}	$V_{CC}=5\text{V}$, $V_I = V_{T^-}$	—	-0.18	—	mA
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}	$V_{CC}=5.25\text{V}$	-20	—	-100	mA
Supply current	I_{CCH}	$V_{CC}=5.25\text{V}$	—	5.9	11	mA
	I_{CCL}	$V_{CC}=5.25\text{V}$	—	8.2	14	mA
Input clamp voltage	V_{IK}	$V_{CC}=4.75\text{V}$, $I_{IN} = -18\text{mA}$	—	—	-1.5	V

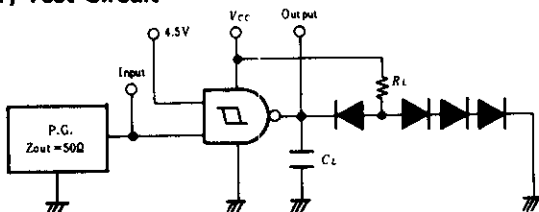
* $V_{CC}=5\text{V}$, $T_a=25^\circ\text{C}$

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

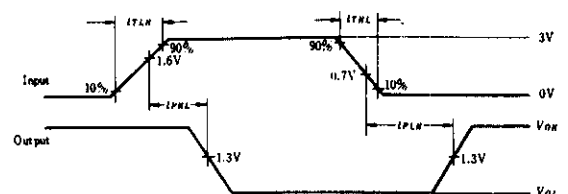
Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	$C_L=15\text{pF}$, $R_L=2\text{k}\Omega$	—	15	22	ns
	t_{PHL}		—	15	22	ns

■ TESTING METHOD

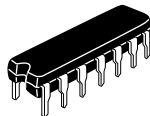
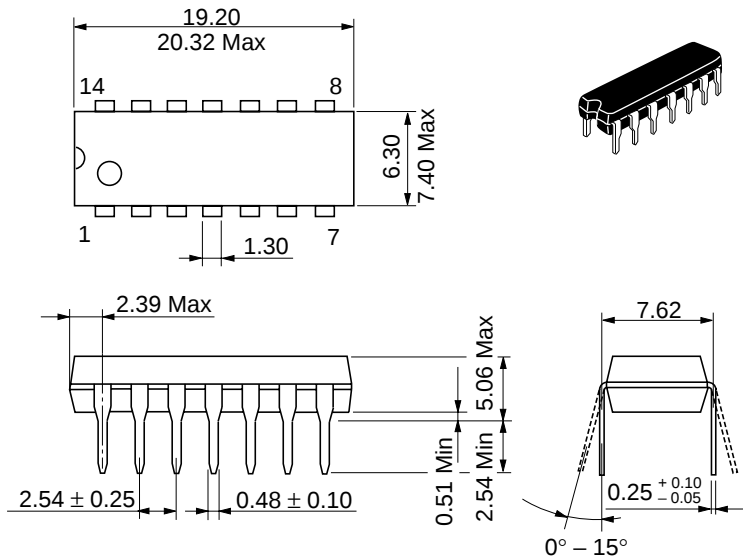
1) Test Circuit



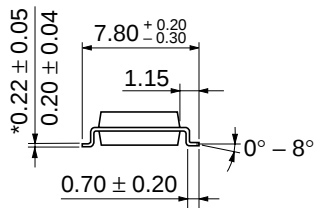
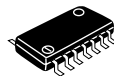
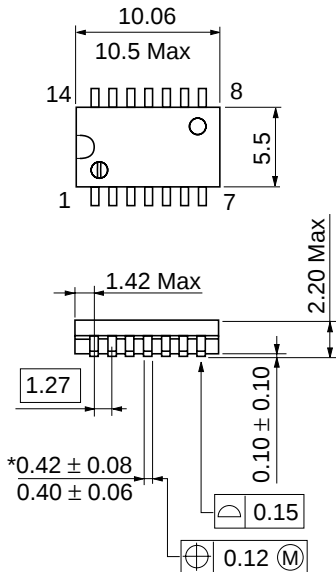
Waveform



- Notes)
- C_L includes probe and jig capacitance.
 - All diodes are 1S2074 (B).
 - Input pulse: $t_{TLH} \leq 15\text{ns}$, $t_{THL} \leq 6\text{ns}$, $PRR=1\text{MHz}$, duty cycle 50%.

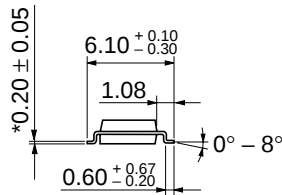
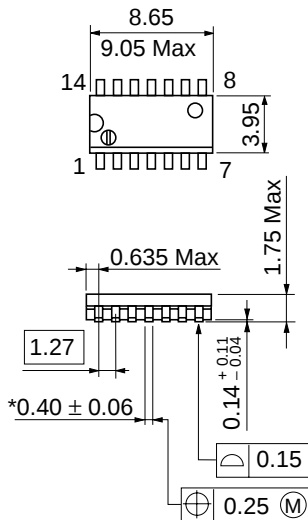


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



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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