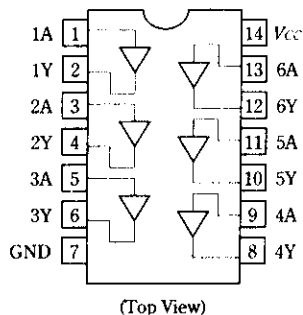


## ■ PIN ARRANGEMENT



## ■ ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Ratings	Unit
Supply voltage	$V_{CC}$	7.0	V
Input voltage	$V_{IN}$	7.0	V
Output voltage	$V_{out}$	30	V
Operating temperature range	$T_{opr}$	-20 ~ +75	°C
Storage temperature range	$T_{stg}$	-65 ~ +150	°C

## ■ RECOMMENDED OPERATING CONDITIONS

Item	Symbol	min	typ	max	Unit
Supply voltage	$V_{CC}$	4.75	5.00	5.25	V
High level output voltage	$V_{OH}$	-	-	30	V
Low level output current	$I_{OL}$	-	-	48	mA
Operating temperature range	$T_{opr}$	-20	25	75	°C

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

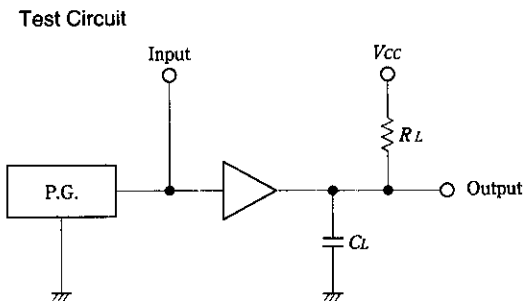
Item	Symbol	Test Conditions	min	typ*	max	Unit	
Input voltage	$V_{IH}$		2.0	-	-	V	
	$V_{IL}$		-	-	0.8	V	
Output voltage	$V_{OL}$	$V_{CC} = 4.75\text{V}, V_{IL} = 0.8\text{V}$	$I_{OL} = 24\text{mA}$	-	-	0.4	V
			$I_{OL} = 48\text{mA}$	-	-	0.5	V
Input current	$I_{IH}$	$V_{CC} = 5.25\text{V}, V_I = 2.7\text{V}$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

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

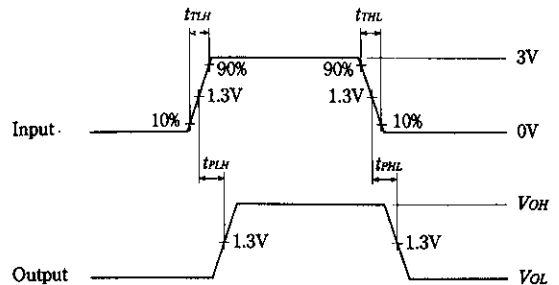
## ■ SWITCHING CHARACTERISTICS ( $V_{CC} = 5\text{V}, T_a = 25^\circ\text{C}$ )

Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	$t_{PLH}$	$C_L = 15\text{pF}, R_L = 110\Omega$	-	10	15	ns
	$t_{PHL}$		-	20	30	ns

## ■ TESTING METHOD



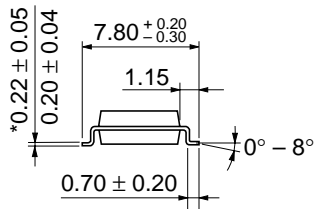
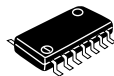
Waveform



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

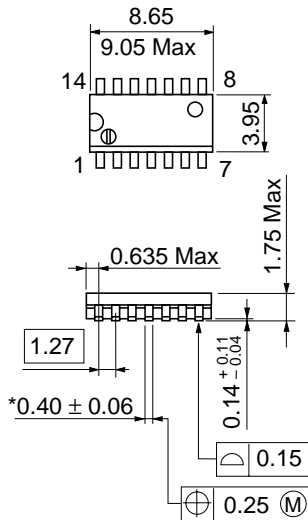


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



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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