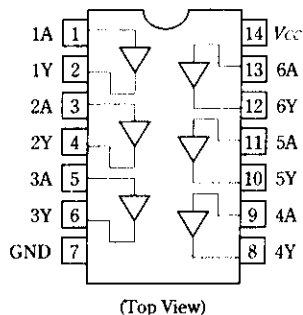


## ■ PIN ARRANGEMENT



## ■ 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 (Ta = -20 ~ +75°C)

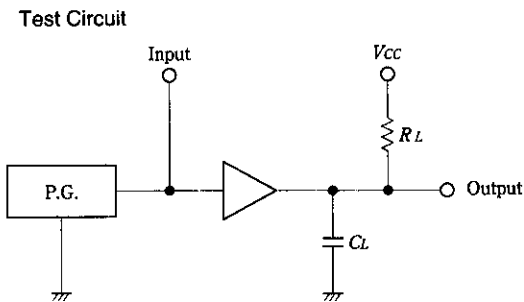
Item	Symbol	Test Conditions	min	typ*	max	Unit	
Input voltage	$V_{IH}$		2.0	-	-	V	
	$V_{IL}$		-	-	0.8	V	
Output voltage	$V_{OL}$	$V_{CC} = 4.75V, V_{IL} = 0.8V$	$I_{OL} = 24mA$	-	-	0.4	V
			$I_{OL} = 48mA$	-	-	0.5	V
Input current	$I_{IH}$	$V_{CC} = 5.25V, V_I = 2.7V$	-	-	20	$\mu A$	
	$I_{IL}$	$V_{CC}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

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

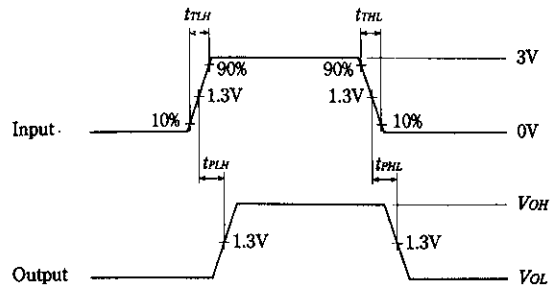
## ■ SWITCHING CHARACTERISTICS (VCC = 5V, Ta = 25°C)

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

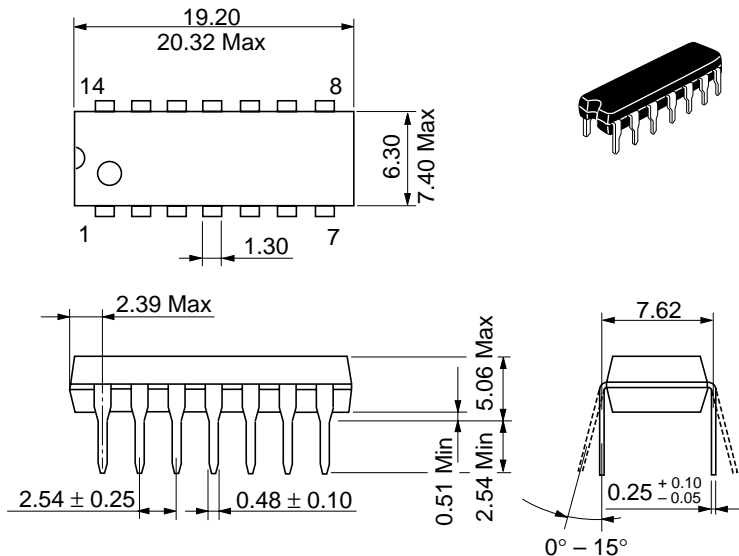
## ■ TESTING METHOD



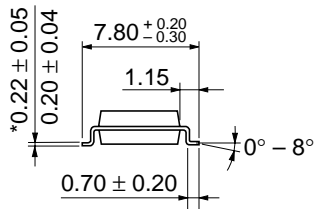
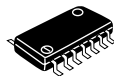
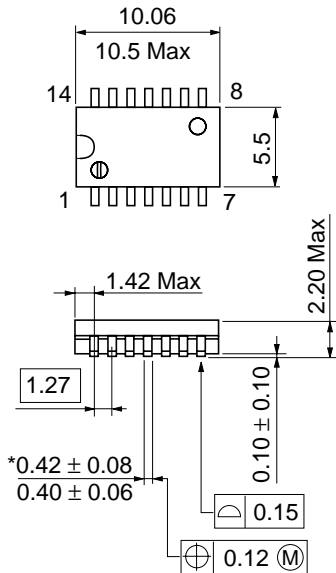
Waveform



- Notes) 1. Input pulse: PRR = 1MHz, duty cycle 50%, Zout = 50 $\Omega$ , tTLH $\leq$ 15ns, tTHL $\leq$ 6ns  
 2. CL includes probe and jig capacitance.  
 3. All diodes are 1S2074(H)

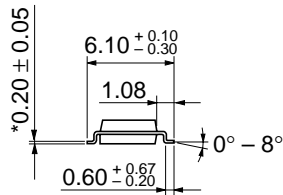
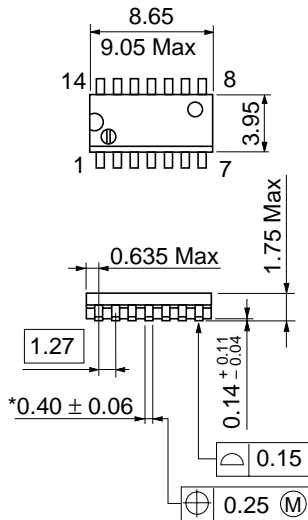


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



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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