

HD74HC05

Hex Inverters (with Open Drain Outputs)

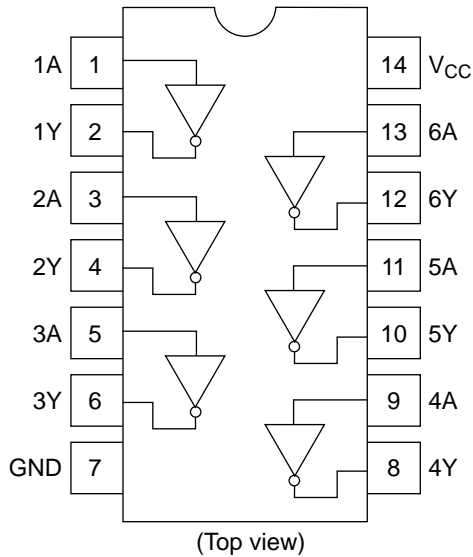
HITACHI

ADE-205-407 (Z)
1st. Edition
Sep. 2000

Features

- High Speed Operation: $t_{pd} = 8 \text{ ns typ}$ ($C_L = 50 \text{ pF}$)
- High Output Current: Fanout of 10 LSTTL Loads
- Wide Operating Voltage: $V_{CC} = 2 \text{ to } 6 \text{ V}$
- Low Input Current: $1 \mu\text{A max}$
- Low Quiescent Supply Current: $I_{CC} (\text{static}) = 1 \mu\text{A max}$ ($T_a = 25^\circ\text{C}$)

Pin Arrangement



DC Characteristics

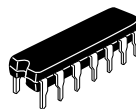
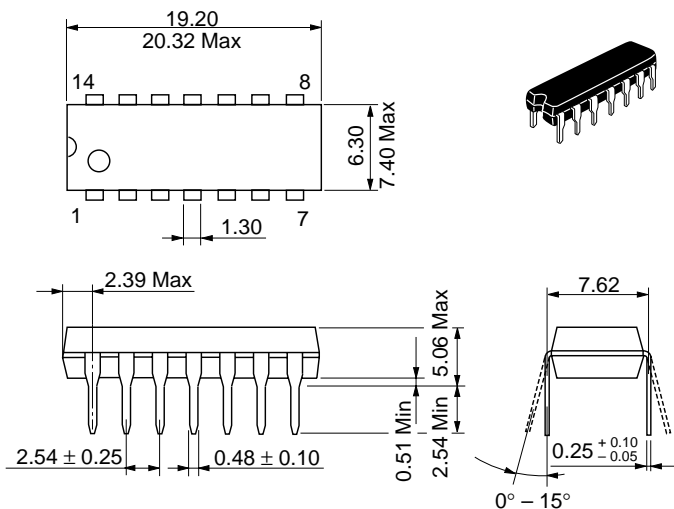
Item	Symbol	V _{CC} (V)	Ta = 25°C			Ta = -40 to +85°C		Unit	Test Conditions	
			Min	Typ	Max	Min	Max			
Input voltage	V _{IH}	2.0	1.5	—	—	1.5	—	V		
		4.5	3.15	—	—	3.15	—			
		6.0	4.1	—	—	4.2	—			
	V _{IL}	2.0	—	—	0.5	—	0.5			V
		4.5	—	—	1.35	—	1.35			
		6.0	—	—	1.8	—	1.8			
Off-state output current	I _o (off)	6.0	—	—	±0.5	—	±5.0	μA	V _{in} = V _{IH} or V _{IL} V _{out} = V _{CC} or GND	
Output voltage	V _{OL}	2.0	—	0.0	0.1	—	0.1	V	V _{in} = V _{IH} or V _{IL} I _{OL} = 20 μA	
		4.5	—	0.0	0.1	—	0.1			
		6.0	—	0.0	0.1	—	0.1			
		4.5	—	—	0.26	—	0.33			I _{OL} = 4 mA
		6.0	—	—	0.26	—	0.33			I _{OL} = 5.2 mA
		6.0	—	—	±0.1	—	±1.0			μA
Quiescent supply current	I _{CC}	6.0	—	—	1.0	—	10	μA	V _{in} = V _{CC} or GND, I _{out} = 0 μA	

AC Characteristics (C_L = 50 pF, Input t_r = t_f = 6 ns)

Item	Symbol	V _{CC} (V)	Ta = 25°C			Ta = -40 to +85°C		Unit	Test Conditions	
			Min	Typ	Max	Min	Max			
Propagation delay time	t _{LZ}	2.0	—	—	90	—	115	ns		
		4.5	—	10	18	—	23			
		6.0	—	—	15	—	20			
	t _{ZL}	2.0	—	—	90	—	115			ns
		4.5	—	6	18	—	23			
		6.0	—	—	15	—	20			
Output fall time	t _{THL}	2.0	—	—	75	—	95	ns		
		4.5	—	5	15	—	19			
		6.0	—	—	13	—	16			
Input capacitance	C _{in}	—	—	5	10	—	10	pF		

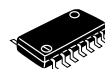
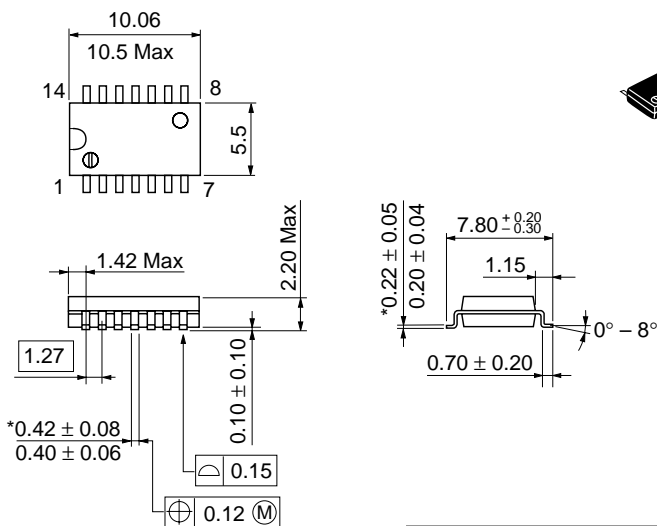
Package Dimensions

Unit: mm



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

Unit: mm

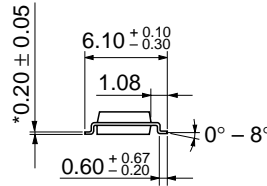
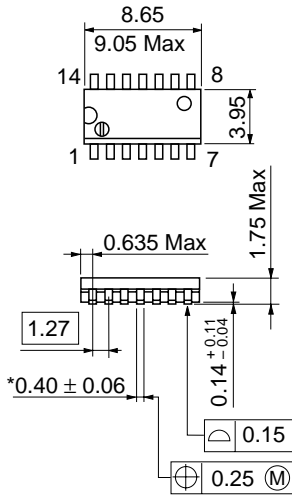


Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.23 g

*Dimension including the plating thickness
Base material dimension

HD74HC05

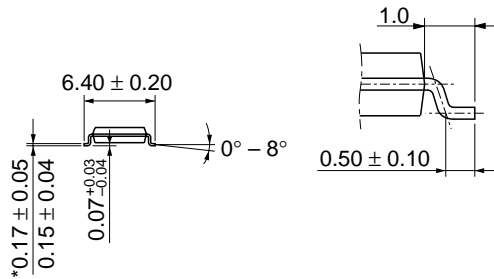
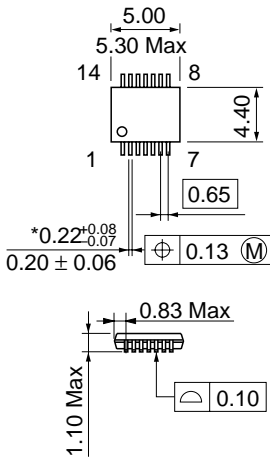
Unit: mm



*Pd plating

Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.13 g

Unit: mm



*Dimension including the plating thickness
Base material dimension

Hitachi Code	TTP-14D
JEDEC	—
EIAJ	—
Mass (reference value)	0.05 g

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