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# HD74AC125/HD74ACT125

Quad Buffer/Line Driver with 3-State Output

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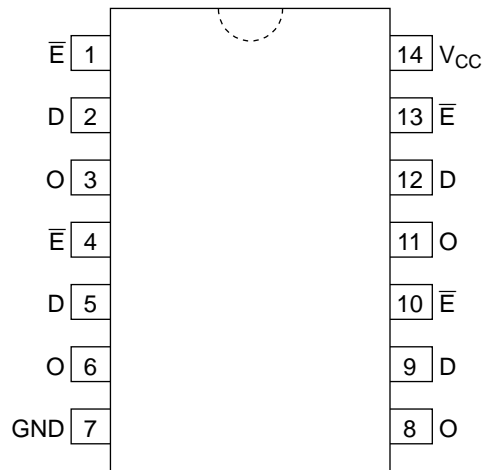
## Description

The HD74AC125/HD74ACT125 is an quad buffer and line driver designed to be employed as a memory address driver, clock driver and bus oriented transmitter/receiver which provides improved PC board density.

## Features

- 3-State Outputs Drive Bus Lines or Buffer Memory Address Registers
- Outputs Source/Sink 24 mA
- HD74ACT125 has TTL-Compatible Inputs

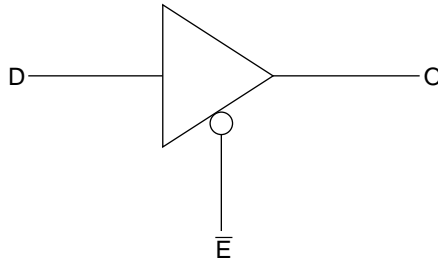
## Pin Arrangement



(Top view)

# HD74AC125/HD74ACT125

## Logic Symbol



## Pin Names

- D Data Inputs
- $\bar{E}$  3-State Output Enable Inputs (Active Low)
- O Outputs

## Truth Table

### Inputs

$\bar{E}$	D	Output
L	L	L
L	H	H
H	X	Z

H : High Voltage Level

L : Low Voltage Level

X : Immaterial

Z : High Impedance

## DC Characteristics (unless otherwise specified)

Item	Symbol	Max	Unit	Condition
Maximum quiescent supply current	$I_{CC}$	80	$\mu A$	$V_{IN} = V_{CC}$ or ground, $V_{CC} = 5.5 V$ , $T_a = \text{Worst case}$
Maximum quiescent supply current	$I_{CC}$	8.0	$\mu A$	$V_{IN} = V_{CC}$ or ground, $V_{CC} = 5.5 V$ , $T_a = 25^\circ C$
Maximum $I_{CC}/\text{input}$ (HD74ACT125)	$I_{CCT}$	1.5	mA	$V_{IN} = V_{CC} - 2.1 V$ , $V_{CC} = 5.5 V$ $T_a = \text{Worst case}$

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**AC Characteristics: HD74AC125**

Item	Symbol	V <sub>CC</sub> (V) <sup>*1</sup>	Ta = +25°C C <sub>L</sub> = 50 pF			Ta = -40°C to +85°C C <sub>L</sub> = 50 pF		Unit
			Min	Typ	Max	Min	Max	
Propagation delay	t <sub>PLH</sub>	3.3	1.0	6.5	9.0	1.0	10.0	ns
		5.0	1.0	5.5	7.0	1.0	7.5	
Propagation delay	t <sub>PHL</sub>	3.3	1.0	6.5	9.0	1.0	10.0	
		5.0	1.0	5.0	7.0	1.0	7.5	
Enable time	t <sub>PZH</sub>	3.3	1.0	6.0	10.5	1.0	11.0	
		5.0	1.0	5.0	7.0	1.0	8.0	
Enable time	t <sub>PHZ</sub>	3.3	1.0	7.5	10.0	1.0	11.0	
		5.0	1.0	5.5	8.0	1.0	8.5	
Disable time	t <sub>PZL</sub>	3.3	1.0	7.0	10.0	1.0	10.5	
		5.0	1.0	6.5	9.5	1.0	9.5	
Disable time	t <sub>PLZ</sub>	3.3	1.0	7.5	10.5	1.0	11.5	
		5.0	1.0	6.5	9.0	1.0	9.5	

Note: 1. Voltage Range 3.3 is 3.3 V ± 0.3 V  
Voltage Range 5.0 is 5.0 V ± 0.5 V

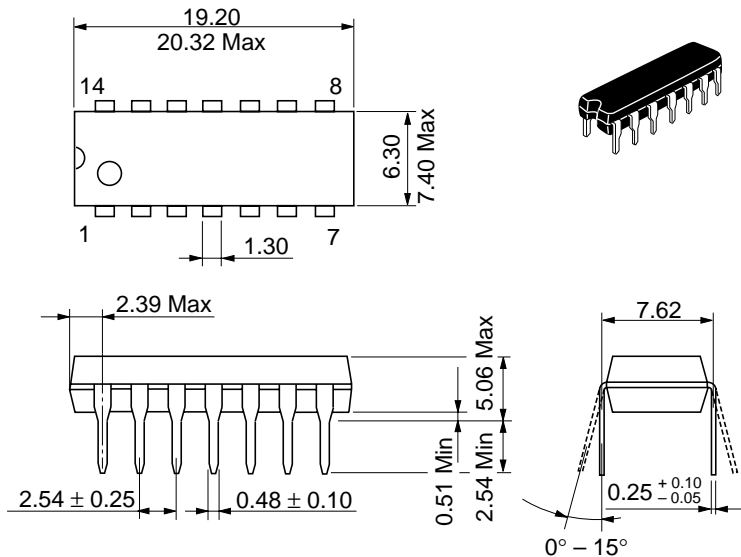
**AC Characteristics: HD74ACT125**

Item	Symbol	V <sub>CC</sub> (V) <sup>*1</sup>	Ta = +25°C C <sub>L</sub> = 50 pF			Ta = -40°C to +85°C C <sub>L</sub> = 50 pF		Unit
			Min	Typ	Max	Min	Max	
Propagation delay	t <sub>PLH</sub>	5.0	1.0	6.5	9.0	1.0	10.0	ns
Propagation delay	t <sub>PHL</sub>	5.0	1.0	7.0	9.0	1.0	10.0	
Enable time	t <sub>PZH</sub>	5.0	1.0	6.0	8.5	1.0	9.5	
Enable time	t <sub>PZL</sub>	5.0	1.0	7.0	9.5	1.0	10.5	
Disable time	t <sub>PHZ</sub>	5.0	1.0	7.0	9.5	1.0	10.5	
Disable time	t <sub>PLZ</sub>	5.0	1.0	7.5	10.0	1.0	10.5	

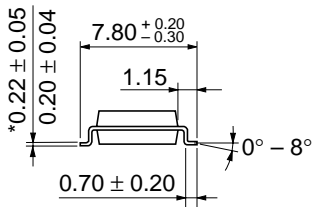
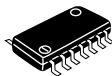
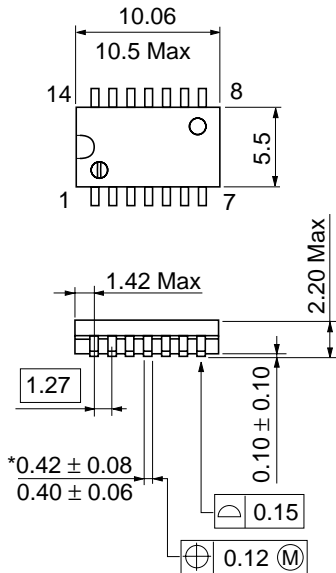
Note: 1. Voltage Range 5.0 is 5.0 V ± 0.5 V

**Capacitance**

Item	Symbol	Typ	Unit	Condition
Input capacitance	C <sub>IN</sub>	4.5	pF	V <sub>CC</sub> = 5.5 V
Power dissipation capacitance	C <sub>PD</sub>	45.0	pF	V <sub>CC</sub> = 5.0 V

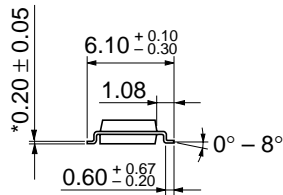
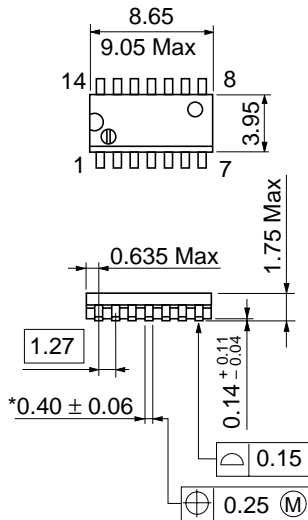


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g

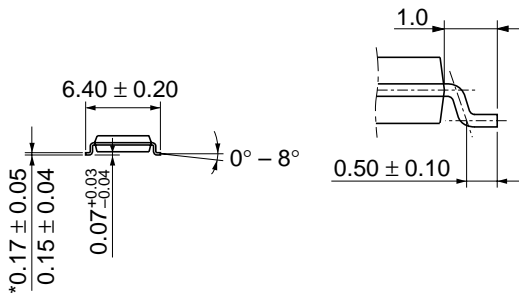
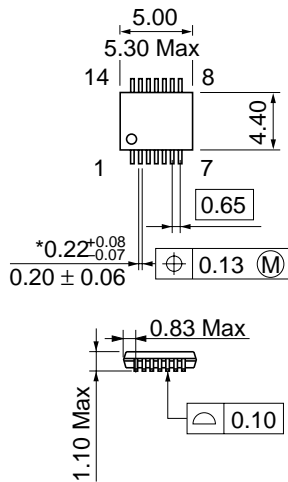


Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.23 g

\*Dimension including the plating thickness  
Base material dimension



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



\*Dimension including the plating thickness  
Base material dimension

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

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