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# HD74AC244/HD74ACT244

Octal Buffer/Line Driver with 3-State Output

# HITACHI

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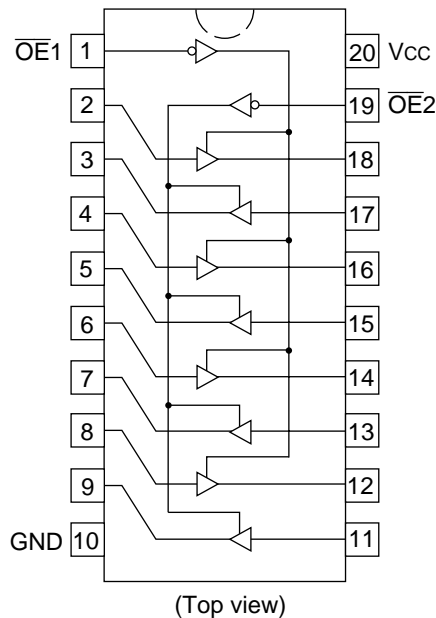
## Description

The HD74AC244/HD74ACT244 is an octal buffer and line driver designed to be employed as a memory address driver, clock driver and bus-oriented transmitter/receive which provides improved PC board density.

## Features

- 3-State Outputs Drive Bus Lines or Buffer Memory Address Registers
- Outputs Source/Sink 24 mA
- HD74ACT244 has TTL-Compatible Inputs

## Pin Arrangement



# HD74AC244/HD74ACT244

## Truth Tables

### Inputs

$\overline{OE}_1$	D	Outputs (Pins 12, 14, 16, 18)
L	L	L
L	H	H
H	X	Z

### Inputs

$\overline{OE}_2$	D	Outputs (Pins 3, 5, 7, 9)
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 additional $I_{CC}/\text{input}$ (HD74ACT244)	$I_{CCT}$	1.5	mA	$V_{IN} = V_{CC} - 2.1 V$ , $V_{CC} = 5.5 V$ , $T_a = \text{Worst case}$

AC Characteristics: HD74AC244

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
Data to output		5.0	1.0	5.0	7.0	1.0	7.5	
Propagation delay	t <sub>PHL</sub>	3.3	1.0	6.5	9.0	1.0	10.0	ns
Data to output		5.0	1.0	5.0	7.0	1.0	7.5	
Output enable time	t <sub>PZH</sub>	3.3	1.0	6.0	10.5	1.0	11.0	ns
		5.0	1.0	5.0	7.0	1.0	8.0	
Output enable time	t <sub>PZL</sub>	3.3	1.0	7.5	10.0	1.0	11.0	ns
		5.0	1.0	5.5	8.0	1.0	8.5	
Output disable time	t <sub>PHZ</sub>	3.3	1.0	7.0	10.0	1.0	10.5	ns
		5.0	1.0	6.5	9.0	1.0	9.5	
Output disable time	t <sub>PLZ</sub>	3.3	1.0	7.5	10.5	1.0	11.5	ns
		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: HD74ACT244

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 Data to output	t <sub>PLH</sub>	5.0	1.0	6.5	9.0	1.0	10.0	ns
Propagation delay Data to output	t <sub>PHL</sub>	5.0	1.0	7.0	9.0	1.0	10.0	ns
Output enable time	t <sub>PZH</sub>	5.0	1.0	6.0	8.5	1.0	9.5	ns
Output enable time	t <sub>PZL</sub>	5.0	1.0	7.0	9.5	1.0	10.5	ns
Output disable time	t <sub>PHZ</sub>	5.0	1.0	7.0	9.5	1.0	10.5	ns
Output disable time	t <sub>PLZ</sub>	5.0	1.0	7.5	10.0	1.0	10.5	ns

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

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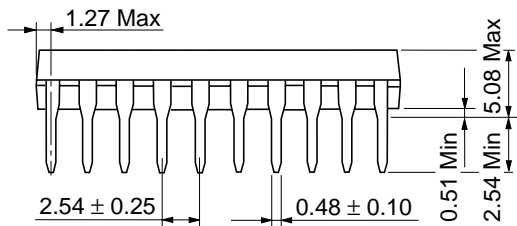
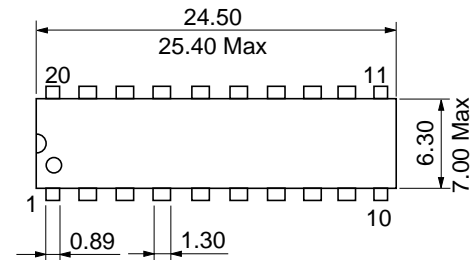
## HD74AC244/HD74ACT244

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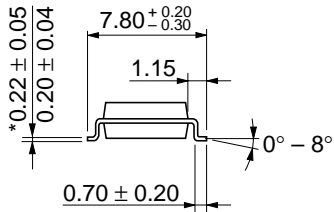
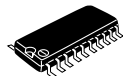
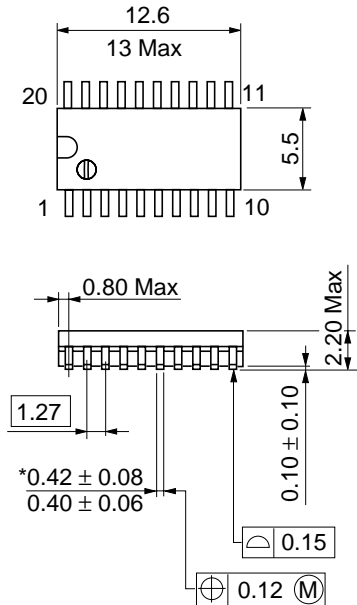
### Capacitance

Item	Symbol	Typ	Unit	Condition
Input capacitance	$C_{IN}$	4.5	pF	$V_{CC} = 5.5 \text{ V}$
Power dissipation capacitance	$C_{PD}$	45.0	pF	$V_{CC} = 5.0 \text{ V}$

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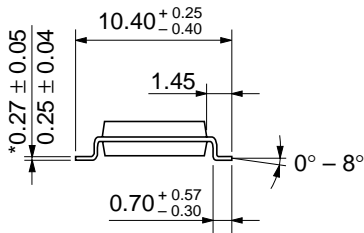
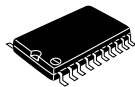
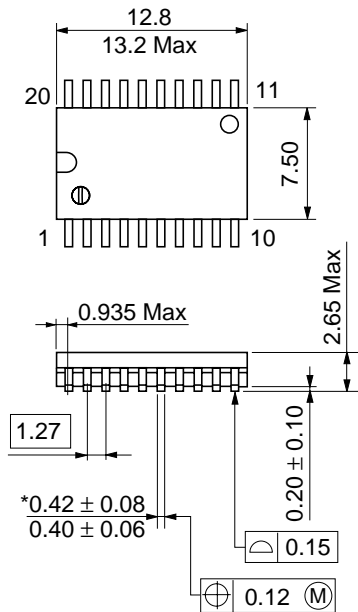


Hitachi Code	DP-20N
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.26 g



\*Dimension including the plating thickness  
Base material dimension

Hitachi Code	FP-20DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.31 g



Hitachi Code	FP-20DB
JEDEC	Conforms
EIAJ	—
Weight (reference value)	0.52 g

\*Dimension including the plating thickness  
 Base material dimension



\*Dimension including the plating thickness  
Base material dimension

Hitachi Code	TTP-20DA
JEDEC	—
EIAJ	—
Weight (reference value)	0.07 g



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