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# HD74HCT241

Octal Buffers/Line Drivers/Line Receivers  
(with noninverted 3-state outputs)

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## Description

The HD74HCT241 is a noninverting buffer and has one active low enable and one active high enable. Each enable independently controls 4 buffers.

This device does not have schmitt trigger inputs.

## Features

- LSTTL Output Logic Level Compatibility as well as CMOS Output Compatibility
- High Speed Operation:  $t_{pd}$  (A to Y) = 10 ns typ ( $C_L = 50$  pF)
- High Output Current: Fanout of 15 LSTTL Loads
- Wide Operating Voltage:  $V_{CC} = 4.5$  to  $5.5$  V
- Low Input Current: 1  $\mu$ A max
- Low Quiescent Supply Current:  $I_{CC}$  (static) = 4  $\mu$ A max ( $T_a = 25^\circ\text{C}$ )

## Function Table

Inputs			Output
$1\bar{G}$	2G	A	Y
H	L	X	Z
L	H	H	H
L	H	L	L

H : High level

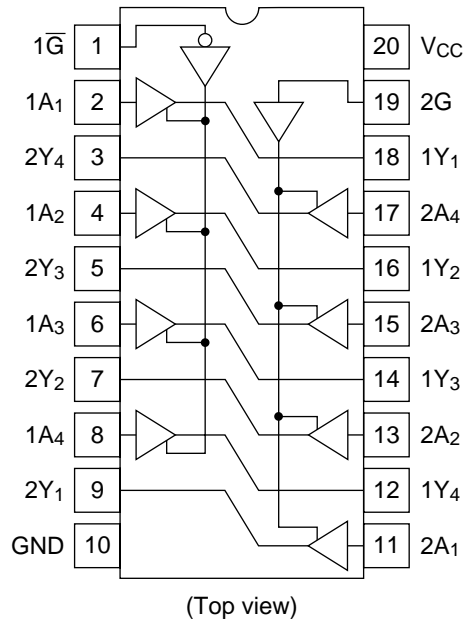
L : Low level

X : Irrelevant

Z : Off (high impedance) state of a 3-state output

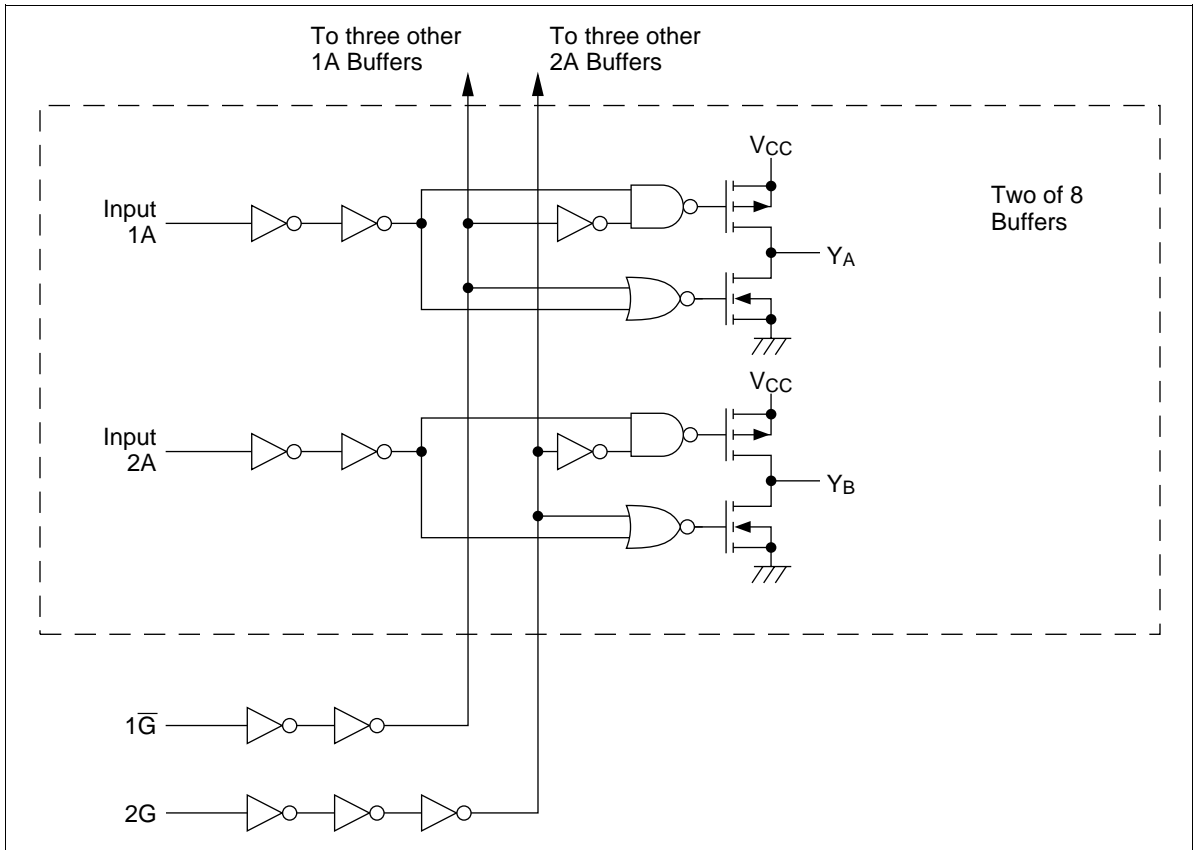
# HD74HCT241

## Pin Arrangement



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**Block Diagram**



**Absolute Maximum Ratings**

Item	Symbol	Rating	Unit
Supply voltage range	$V_{CC}$	-0.5 to +7.0	V
Input voltage	$V_{IN}$	-0.5 to $V_{CC} + 0.5$	V
Output voltage	$V_{OUT}$	-0.5 to $V_{CC} + 0.5$	V
DC current drain per pin	$I_{OUT}$	$\pm 35$	mA
DC current drain per $V_{CC}$ , GND	$I_{CC}$ , $I_{GND}$	$\pm 75$	mA
DC input diode current	$I_{IK}$	$\pm 20$	mA
DC output diode current	$I_{OK}$	$\pm 20$	mA
Power dissipation per package	$P_T$	500	mW
Storage temperature	$T_{stg}$	-65 to +150	$^{\circ}C$

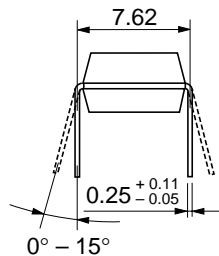
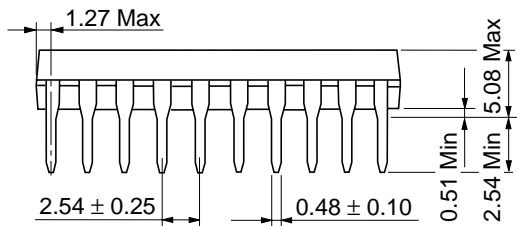
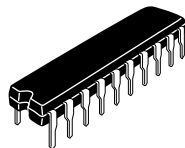
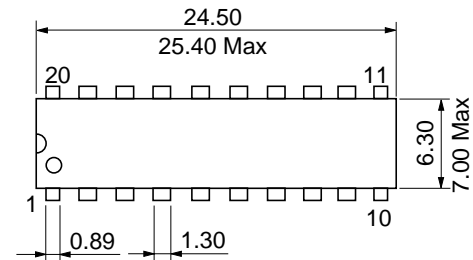
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## DC Characteristics

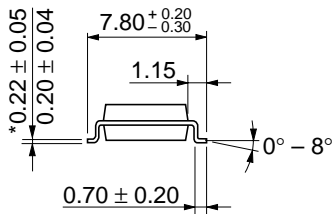
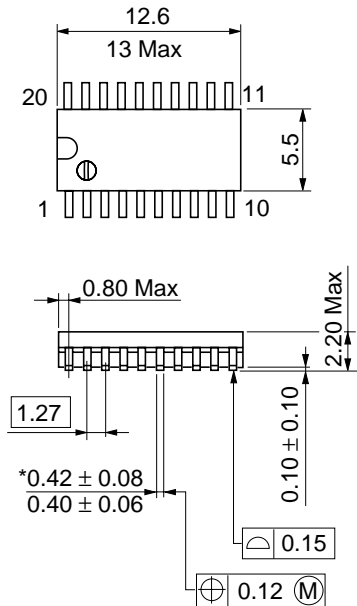
Item	Symbol	Ta = 25°C		Ta = -40 to +85°C		Unit	Test Conditions		
		Min	Typ	Max	Min		Max	V <sub>CC</sub> (V)	
Input voltage	V <sub>IH</sub>	2.0	—	—	2.0	—	V	4.5 to 5.5	
	V <sub>IL</sub>	—	—	0.8	—	0.8	V	4.5 to 5.5	
Output voltage	V <sub>OH</sub>	4.4	—	—	4.4	—	V	4.5	Vin = V <sub>IH</sub> or V <sub>IL</sub> I <sub>OH</sub> = -20 μA
		4.18	—	—	4.13	—		4.5	
	V <sub>OL</sub>	—	—	0.1	—	0.1	V	4.5	Vin = V <sub>IH</sub> or V <sub>IL</sub> I <sub>OL</sub> = 20 μA
		—	—	0.26	—	0.33		4.5	
Off-state output current	I <sub>OZ</sub>	—	—	±0.5	—	±5.0	μA	5.5	Vin = V <sub>IH</sub> or V <sub>IL</sub> , Vout = V <sub>CC</sub> or GND
Input current	I <sub>in</sub>	—	—	±0.1	—	±1.0	μA	5.5	Vin = V <sub>CC</sub> or GND
Quiescent current	I <sub>CC</sub>	—	—	4.0	—	40	μA	5.5	Vin = V <sub>CC</sub> or GND, Iout = 0 μA

## AC Characteristics (C<sub>L</sub> = 50 pF, Input t<sub>r</sub> = t<sub>f</sub> = 6 ns)

Item	Symbol	Ta = 25°C		Ta = -40 to +85°C		Unit	Test Conditions	
		Min	Typ	Max	Min		Max	V <sub>CC</sub> (V)
Propagation delay time	t <sub>PHL</sub>	—	11	20	—	25	ns	4.5
	t <sub>PLH</sub>	—	9	20	—	25		4.5
Output enable time	t <sub>ZL</sub>	—	14	30	—	38	ns	4.5
	t <sub>ZH</sub>	—	12	30	—	38		4.5
Output disable time	t <sub>LZ</sub>	—	13	30	—	38	ns	4.5
	t <sub>HZ</sub>	—	17	30	—	38		4.5
Output rise/fall time	t <sub>TLH</sub> t <sub>THL</sub>	—	4	12	—	15	ns	4.5
Input capacitance	C <sub>in</sub>	—	5	10	—	10	pF	—

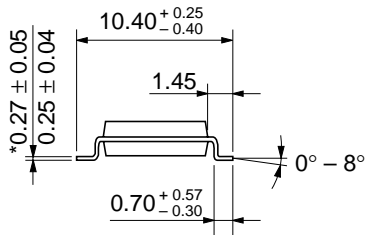
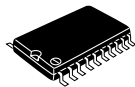
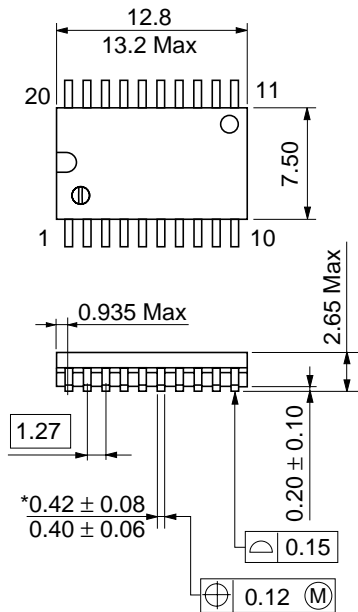


Hitachi Code	DP-20N
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.26 g



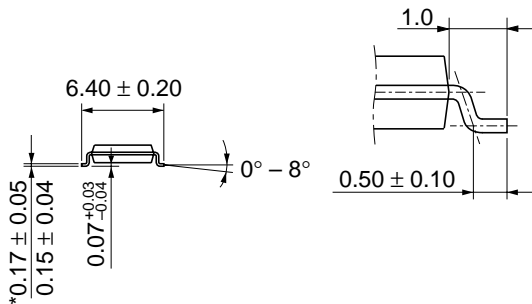
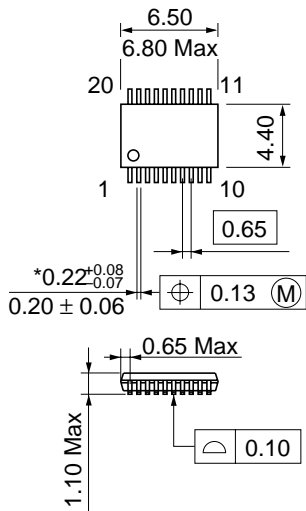
Hitachi Code	FP-20DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.31 g

\*Dimension including the plating thickness  
Base material dimension



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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