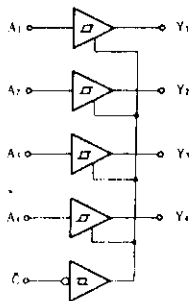


HD74LS244

Octal Buffers/Line Drivers/Line Receivers
(non inverted three-state outputs)

■ BLOCK DIAGRAM (1/2)

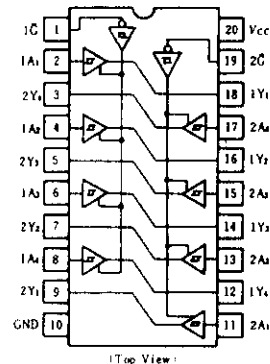


■ FUNCTION TABLE

Input		Output
\bar{C}	A	Y
H	X	Z
L	H	H
L	L	L

Note) H; high level,
L; low level,
X; irrelevant
Z; off (high-impedance) state
of a 3-state output

■ PIN ARRANGEMENT



■ ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$)

Item	Symbol	Test Conditions	min	typ*	max	Unit
Input voltage	V_{IH}		2.0	—	—	V
	V_{IL}		—	—	0.8	V
Hysteresis	$V_{T+} - V_{T-}$	$V_{CC} = 4.75\text{V}$	0.2	0.4	—	V
Output voltage	V_{OH}	$V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V}$ $V_{IL} = 0.8\text{V}, I_{OH} = -3\text{mA}$	2.4	—	—	V
	V_{OL}	$V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V},$ $V_{IL} = 0.8\text{V}$ $I_{OL} = 12\text{mA}$	2.0	—	—	V
Output current	I_{OZH}	$V_{CC} = 5.25\text{V}, V_{IH} = 2\text{V},$ $V_{OL} = 0.8\text{V}$ $I_{OL} = 24\text{mA}$	—	—	20	μA
	I_{OZL}	$V_{IL} = 0.8\text{V}$ $V_{OH} = 0.4\text{V}$	—	—	-20	μA
Input current	I_{IH}	$V_{CC} = 5.25\text{V}, V_i = 2.7\text{V}$	—	—	20	μA
	I_{iL}	$V_{CC} = 5.25\text{V}, V_i = 0.4\text{V}$	—	—	-0.2	mA
	I_i	$V_{CC} = 5.25\text{V}, V_i = 7\text{V}$	—	—	0.1	mA
Short-circuit output current	I_{OS}	$V_{CC} = 5.25\text{V}$	-40	—	-225	mA
Supply current	Output "H"	$V_{CC} = 5.25\text{V}$	—	13	23	mA
	Output "L"		—	27	46	
	All outputs disabled†		—	32	54	
Input clamp voltage	V_{IK}	$V_{CC} = 4.75\text{V}, I_{IN} = -18\text{mA}$	—	—	-1.5	V

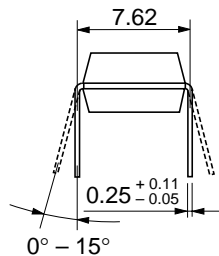
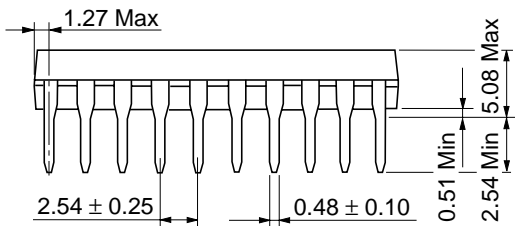
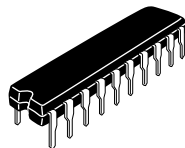
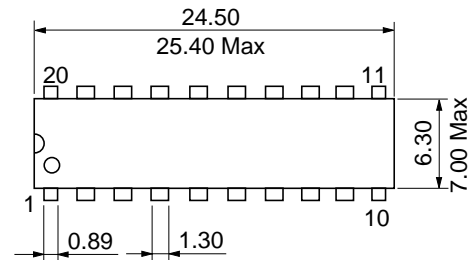
* $V_{CC} = 5\text{V}, T_a = 25^\circ\text{C}$

†† I_{CC} is measured with all outputs open.

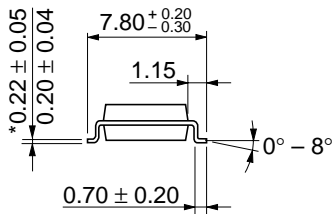
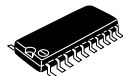
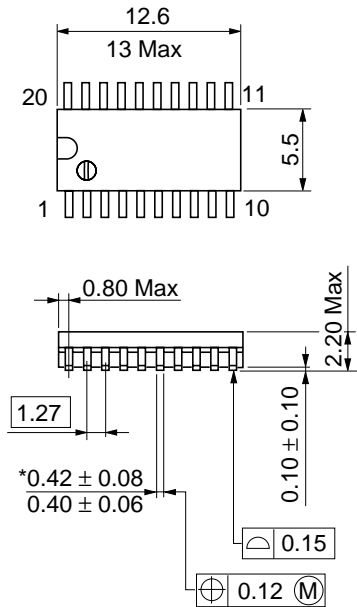
■ SWITCHING CHARACTERISTICS ($V_{CC} = 5\text{V}, T_a = 25^\circ\text{C}$)

Item	Symbol	Test Conditions	min	typ	max	Unit	
Propagation delay time	t_{PLH}	$C_L = 45\text{pF}, R_L = 667\ \Omega$	—	12	18	ns	
	t_{PHL}		—	12	18		
Output enable time	t_{ZL}			—	20	30	ns
	t_{ZH}			—	15	23	
Output disable time	t_{LLZ}	$C_L = 5\text{pF}, R_L = 667\ \Omega$	—	15	25	ns	
	t_{HZ}		—	10	18		

Note) Refer to Test Circuit and Waveform of the Common Item

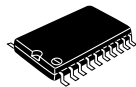
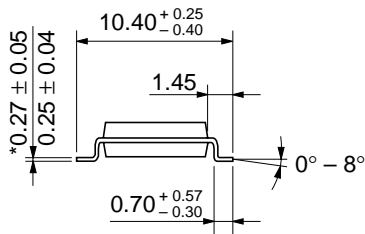
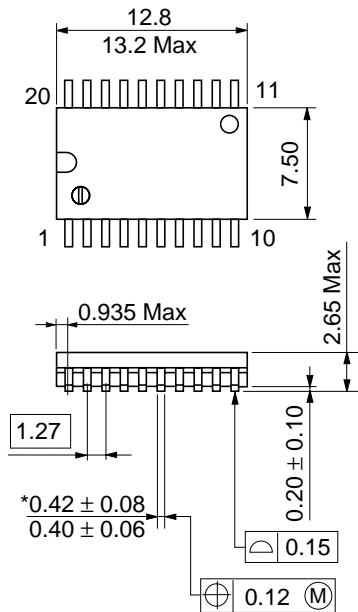


Hitachi Code	DP-20N
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.26 g



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

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