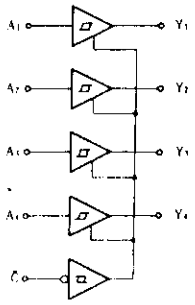
HD74LS244 ●Octal Buffers/Line Drivers/Line Receivers (non inverted three-state outputs)

■BLOCK DIAGRAM(½)

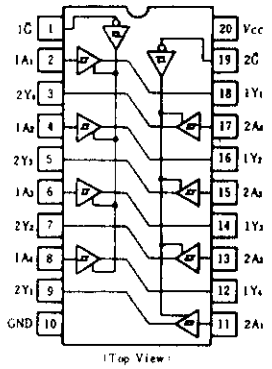


■FUNCTION TABLE

Input		Output
$\overline{G}$	A	Y
H	×	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 ($Ta = -20 \sim +75°C$)

Item		Symbol	Test Conditions		min	typ*	max	Unit
Input voltage		V_{IH}			2.0	—	—	V
		V_{IL}			—	—	0.8	V
Hysteresis		$V_T^+ - V_T^-$	$V_{CC}=4.75V$		0.2	0.4	—	V
Output voltage		V_{OH}	$V_{CC}=4.75V$, $V_{IH}=2V$	$V_{IL}=0.8V$, $I_{OH}=-3mA$	2.4	—	—	V
				$V_{IL}=0.5V$, $I_{OH}=-15mA$	2.0	—	—	
		V_{OL}	$V_{CC}=4.75V$, $V_{IH}=2V$, $V_{IL}=0.8V$	$I_{OL}=12mA$	—	—	0.4	V
				$I_{OL}=24mA$	—	—	0.5	
Output current		I_{OZH}	$V_{CC}=5.25V$, $V_{IH}=2V$, $V_{IL}=0.8V$	$V_O=2.7V$	—	—	20	μA
		I_{OZL}		$V_O=0.4V$	—	—	−20	
Input current		I_{IH}	$V_{CC}=5.25V$, $V_I=2.7V$		—	—	20	μA
		I_{IL}	$V_{CC}=5.25V$, $V_I=0.4V$		—	—	−0.2	mA
		I_I	$V_{CC}=5.25V$, $V_I=7V$		—	—	0.1	mA
Short-circuit output current		I_{OS}	$V_{CC}=5.25V$		−40	—	−225	mA
Supply current	Output "H"	I_{CC}	$V_{CC}=5.25V$		—	13	23	mA
	Output "L"				—	27	46	
	All outputs disabled**				—	32	54	
Input clamp voltage		V_{IK}	$V_{CC}=4.75V$, $I_{IN}=-18mA$		—	—	−1.5	V

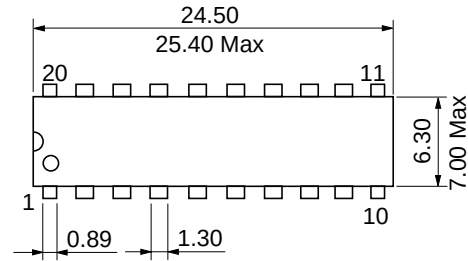
* $V_{CC}=5V$, $Ta=25°C$
** I_{CC} is measured with all outputs open.

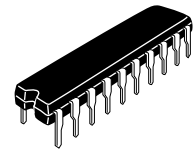
■SWITCHING CHARACTERISTICS ($V_{CC}=5V$, $Ta=25°C$)

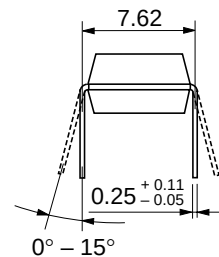
Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	$C_L=45pF$, $R_L=667\Omega$	—	12	18	ns
	t_{PHL}		—	12	18	
Output enable time	t_{ZL}		—	20	30	ns
	t_{ZH}		—	15	23	ns
Output disable time	t_{LZ}	$C_L=5pF$, $R_L=667\Omega$	—	15	25	ns
	t_{HZ}		—	10	18	ns

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

Unit: mm

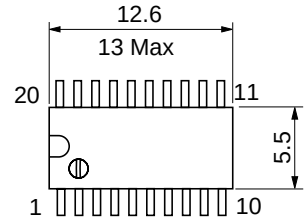


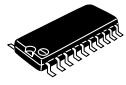


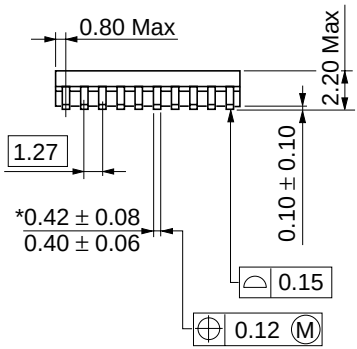


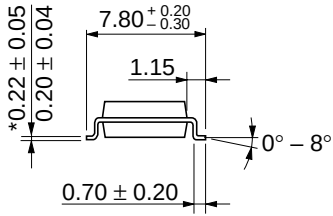
Hitachi Code	DP-20N
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.26 g

Unit: mm





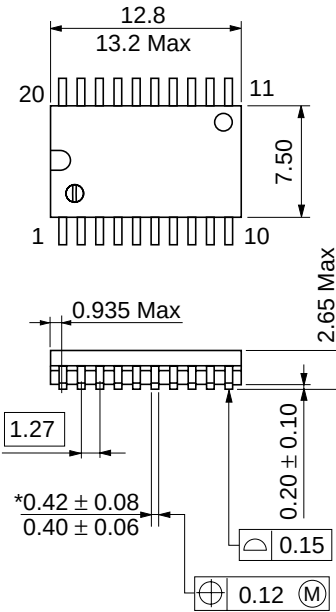


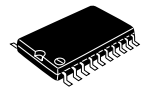


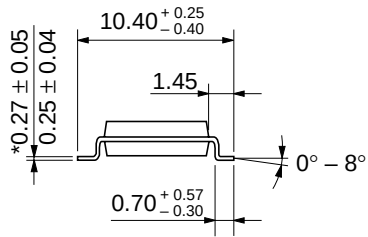
*Dimension including the plating thickness
Base material dimension

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

Unit: mm







*Dimension including the plating thickness
Base material dimension

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

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