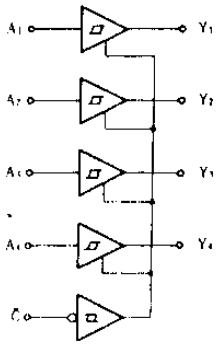
HD74LS244 ●Octal Buffers/Line Drivers/Line Receivers (non inverted three-state outputs)

■BLOCK DIAGRAM(½)

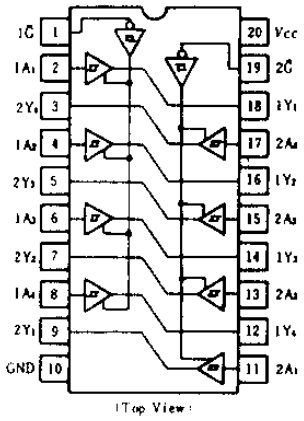


■FUNCTION TABLE

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



(Top View)

■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

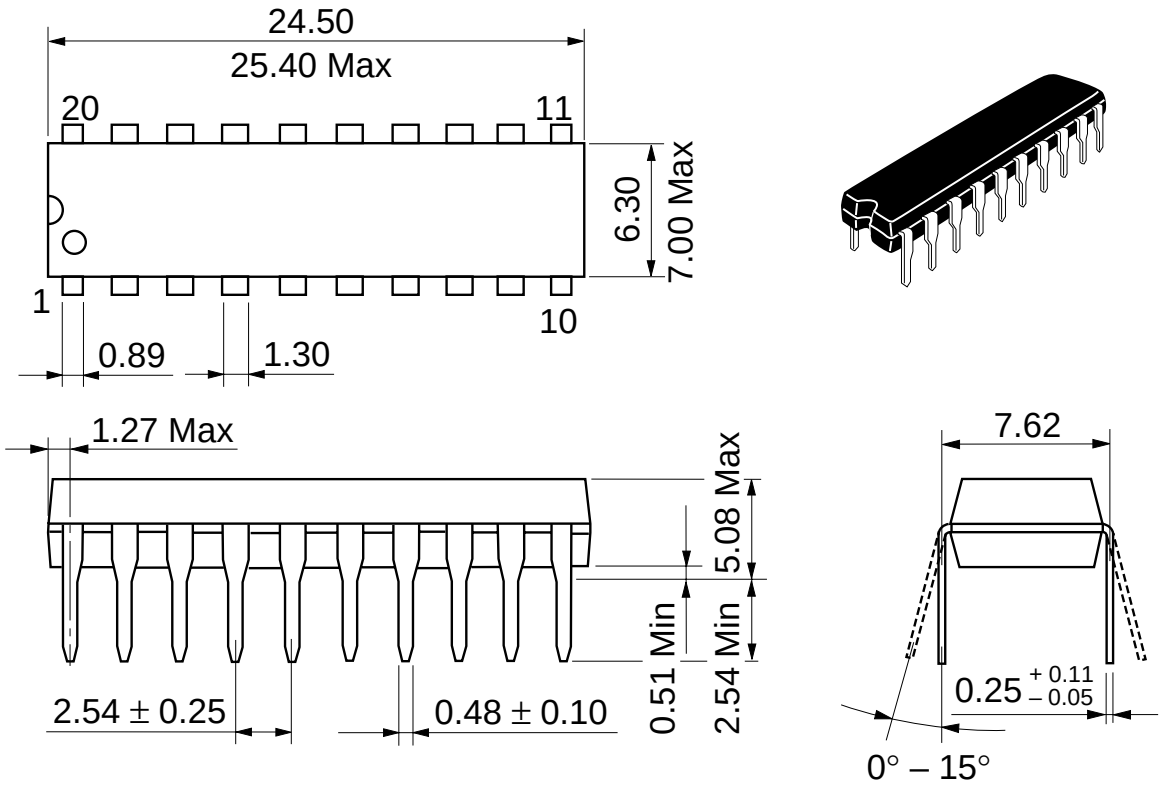
* V_{CC}=5V, Ta=25°C
** I_{CC} is measured with all outputs open.

■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

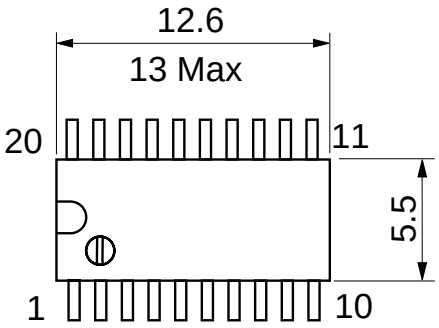
Note) Refer to Test Circuit and Waveform of the Common Item

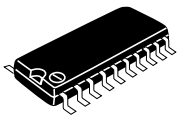
Unit: mm

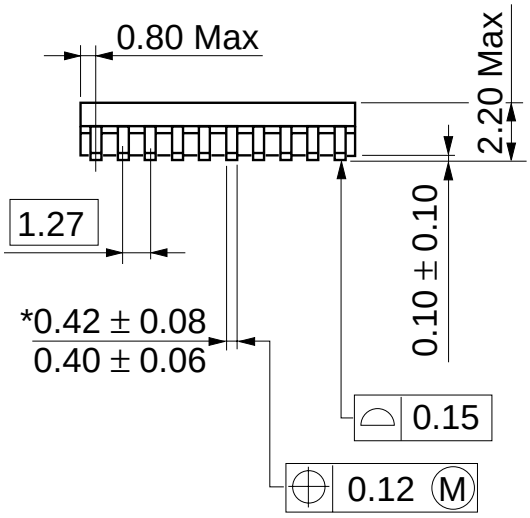


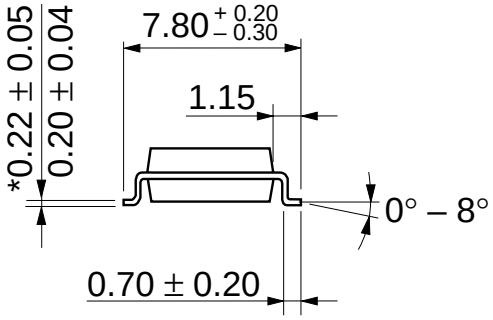
Hitachi Code	DP-20N
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.26 g

Unit: mm





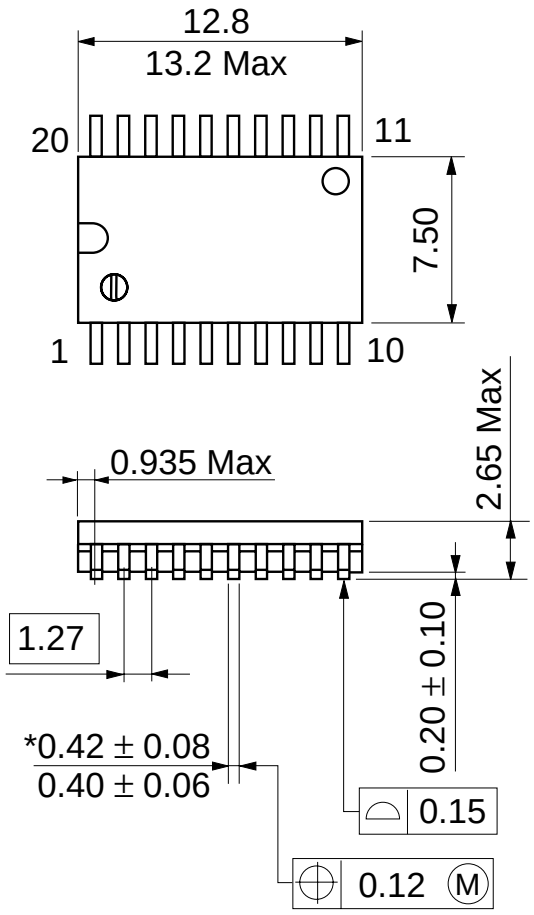


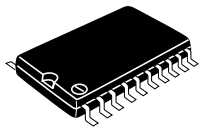


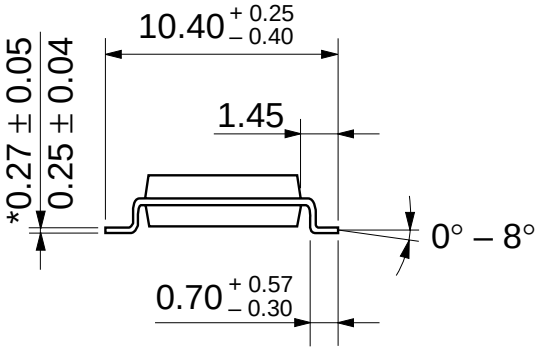
*Dimension including the plating thickness
Base material dimension

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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