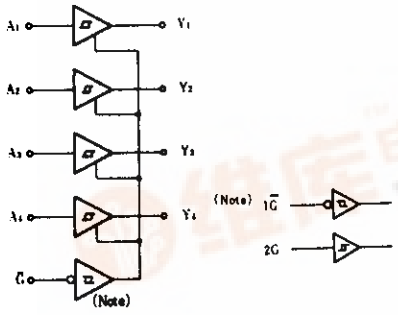
HD74LS241

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

■BLOCK DIAGRAM (½)

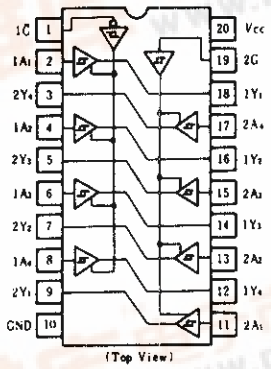


■FUNCTION TABLE

Inputs			Output
$1\overline{G}$	2G	A	Y
H	L	×	Z
L	H	H	H
L	H	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～+75℃)

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_{CC}=4.75V, V_{IH}=2V, 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**	Outputs high	I_{CC}	V_{CC}=5.25V		–	13	23	mA
	Outputs low				–	27	46	
	All outputs disabled				–	32	54	
Input clamp voltage		V_{IK}	V_{CC}=4.75V, I_{IN}=−18mA		–	–	−1.5	V

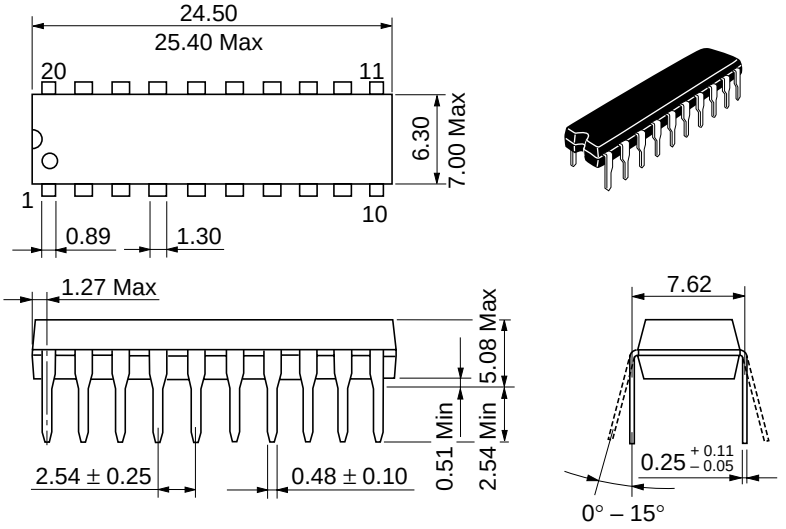
* V_{CC}=5V, Ta=25°C
** I_{CC} is measured with all outputs open.

■SWITCHING CHARACTERISTICS (V_{CC}=5V, Ta=25℃)

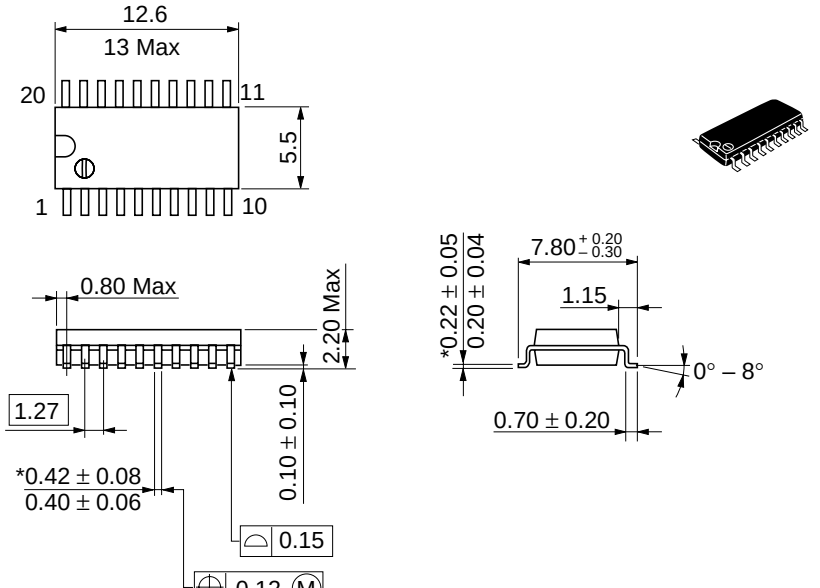
Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	C_L=45pF, R_L=667Ω	–	12	18	ns
	t_{PHL}		–	12	18	
Output enable time	t_{ZL}		–	20	30	ns
	t_{ZH}		–	15	23	ns
Output disable time	t_{LZ}	C_L=5pF, R_L=667Ω	–	15	25	ns
	t_{HZ}		–	10	18	ns

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

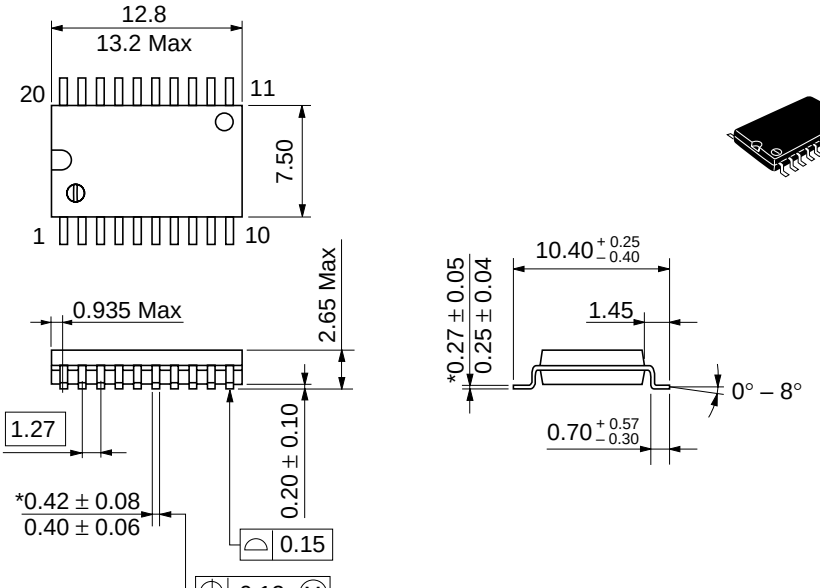
Unit: mm


24.50
25.40 Max
20
11
6.30
7.00 Max
1
10
0.89
1.30
1.27 Max
5.08 Max
0.51 Min
2.54 Min
2.54 ± 0.25
0.48 ± 0.10
7.62
0.25 + 0.11 − 0.05
0° – 15°

Unit: mm


12.6
13 Max
20
11
5.5
1
10
0.80 Max
2.20 Max
1.27
*0.42 ± 0.08
0.40 ± 0.06
0.10 ± 0.10
0.15
0.12 M
*0.22 ± 0.05
0.20 ± 0.04
7.80 +0.20 −0.30
1.15
0° – 8°
0.70 ± 0.20

Unit: mm


12.8
13.2 Max
20
11
7.50
1
10
0.935 Max
2.65 Max
1.27
*0.42 ± 0.08
0.40 ± 0.06
0.20 ± 0.10
0.15
10.40 +0.25 −0.40
*0.27 ± 0.05
0.25 ± 0.04
1.45
0° – 8°
0.70 +0.57 −0.30

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HITACHI

Hitachi, Ltd.
Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

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NorthAmerica : http:semiconductor.hitachi.com/
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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose,CA 95134
Tel: <1> (408) 433-1990
Fax: <1>(408) 433-0223

Hitachi Europe GmbH
Electronic components Group
Dornacher Stra§e 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building. No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX