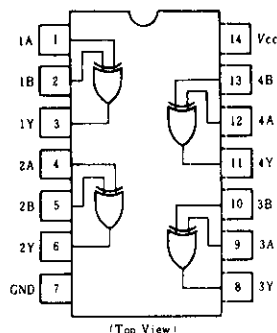


HD74LS86 • Quadruple 2-input Exclusive-OR Gates

■ PIN ARRANGEMENT



■ FUNCTION TABLE

Inputs		Output
A	B	Y
L	L	L
L	H	H
H	L	H
H	H	L

H; high level, L; low level

■ 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
Output voltage	V_{OH}	$V_{CC} = 4.75\text{V}$, $V_{IH} = 2\text{V}$, $V_{IL} = 0.8\text{V}$, $I_{OH} = -400\mu\text{A}$	2.7	—	—	V
	V_{OL}	$V_{OL} = 4.75\text{V}$, $V_{IH} = 2\text{V}$, $V_{IL} = 0.8\text{V}$			0.4	V
					0.5	
		$I_{OL} = 4\text{mA}$	—	—	—	
		$I_{OL} = 8\text{mA}$	—	—	—	
Input current	I_I	$V_{CC} = 5.25\text{V}$, $V_I = 7\text{V}$	—	—	0.2	mA
	I_{IH}	$V_{CC} = 5.25\text{V}$, $V_I = 2.7\text{V}$	—	—	40	μA
	I_{IL}	$V_{CC} = 5.25\text{V}$, $V_I = 0.4\text{V}$	—	—	-0.8	mA
Short-circuit output current	I_{OS}	$V_{CC} = 5.25\text{V}$	-20	—	-100	mA
Supply current **	I_{CC}	$V_{CC} = 5.25\text{V}$	—	6.1	10	mA
Input clamp voltage	V_{IK}	$V_{CC} = 4.75\text{V}$, $I_{IN} = -18\text{mA}$	—	—	-1.5	V

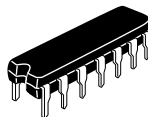
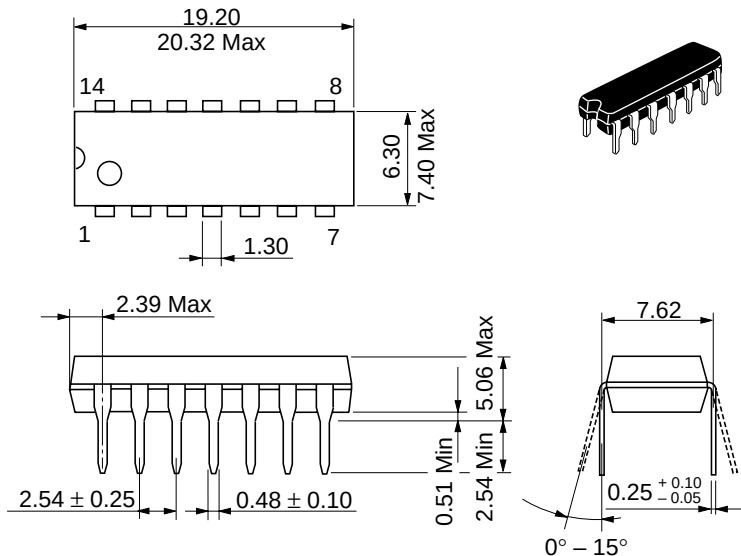
* $V_{CC} = 5\text{V}$, $T_a = 25^\circ\text{C}$

** I_{CC} is measured with all outputs open and all inputs grounded.

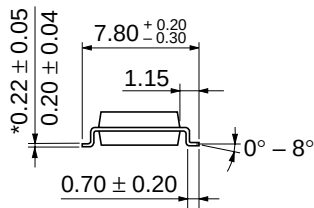
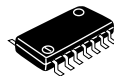
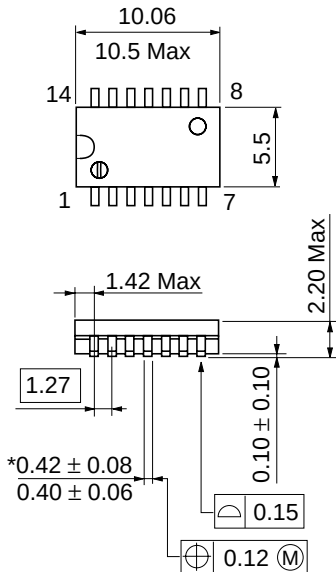
■ SWITCHING CHARACTERISTICS ($V_{CC} = 5\text{V}$, $T_a = 25^\circ\text{C}$)

Item	Symbol	Inputs	Test Conditions		min	typ	max	Unit
Propagation delay time	t_{PLH}	A or B	$C_L=15\text{pF}$, $R_L=2\text{k}\Omega$	Other inputs=0V	—	12	23	ns
	t_{PHL}				—	10	17	ns
	t_{PLH}	A or B		Other inputs=4.5V	—	20	30	ns
	t_{PHL}				—	13	22	ns

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

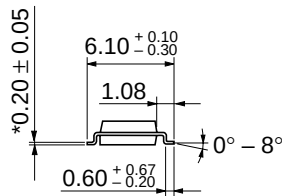
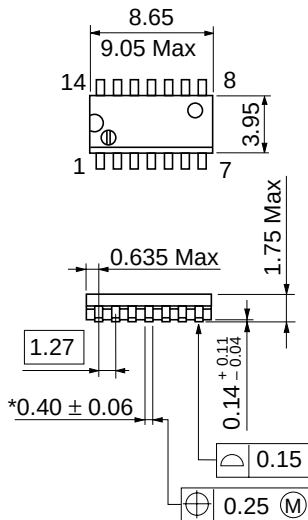


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.23 g

*Dimension including the plating thickness
Base material dimension



Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.13 g

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