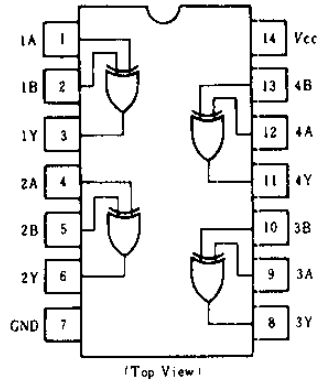


HD74LS86 • Quadruple 2-input Exclusive-OR Gates

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}	$V_{OL}=4.75\text{V}, V_{IH}=2\text{V}, V_{IL}=0.8\text{V}$	$I_{OL}=4\text{mA}$	—	—	0.4	V
			$I_{OL}=8\text{mA}$	—	—	0.5	
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	

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

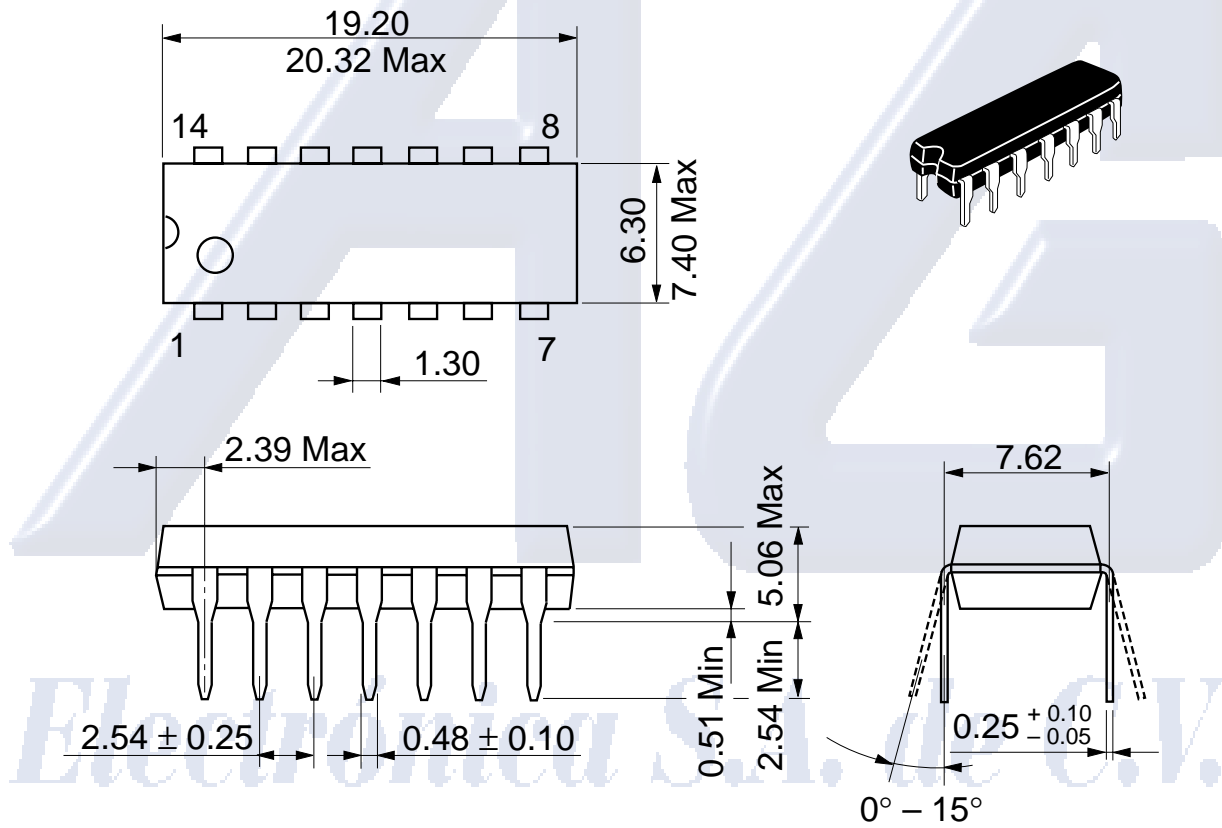
** I_{CC} is measured with all outputs open and all inputs grounded.

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

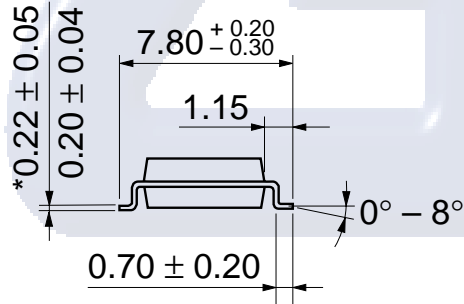
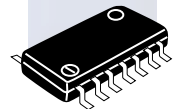
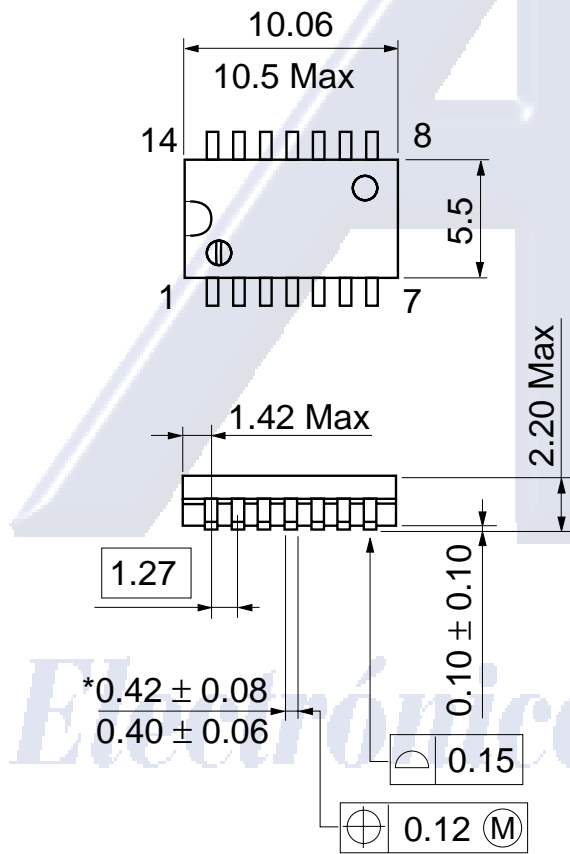
Note) Refer to Test Circuit and Waveform of the Common Item

Unit: mm



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

Unit: mm

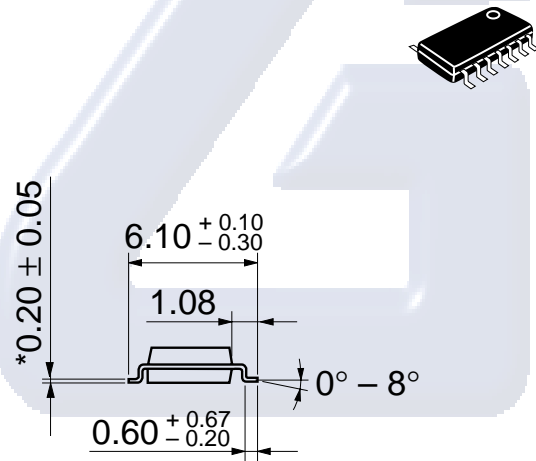
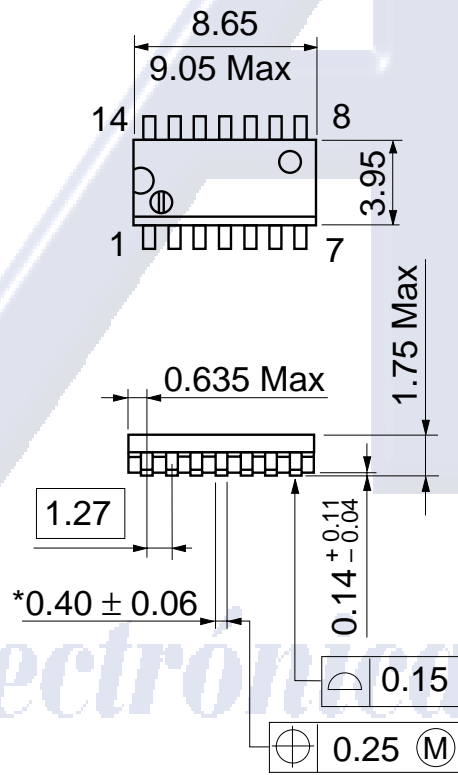


Electrónica S.A. de C.V.

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

*Dimension including the plating thickness
 Base material dimension

Unit: mm



Electronica S.A. de C.V.

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

*Pd plating

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