

HD74LS136

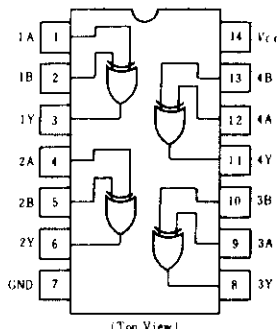
● Quadruple 2-input Exclusive-OR Gates (with open collector outputs)

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, X; irrelevant.

PIN ARRANGEMENT



(Top View)

RECOMMENDED OPERATING CONDITIONS

Item	Symbol	min	typ	max	Unit
High level output voltage	V_{OH}	—	—	5.5	V
Low level output current	I_{OL}	—	—	8	mA

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 current	I_{OH}	$V_{CC}=4.75\text{V}, V_{IH}=2\text{V}, V_{IL}=0.8\text{V}, V_{OH}=5.5\text{V}$	—	—	100	μA	
Output voltage	V_{OL}	$V_{CC}=4.75\text{V}, V_{IH}=2\text{V}, V_{IL}=0.8\text{V}$	$I_{OL}=4\text{mA}$	—	—	0.4	V
			$I_{OL}=8\text{mA}$	—	—	0.5	
Input current	I_{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	
	I_I	$V_{CC}=5.25\text{V}, V_I=7\text{V}$	—	—	0.2	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	

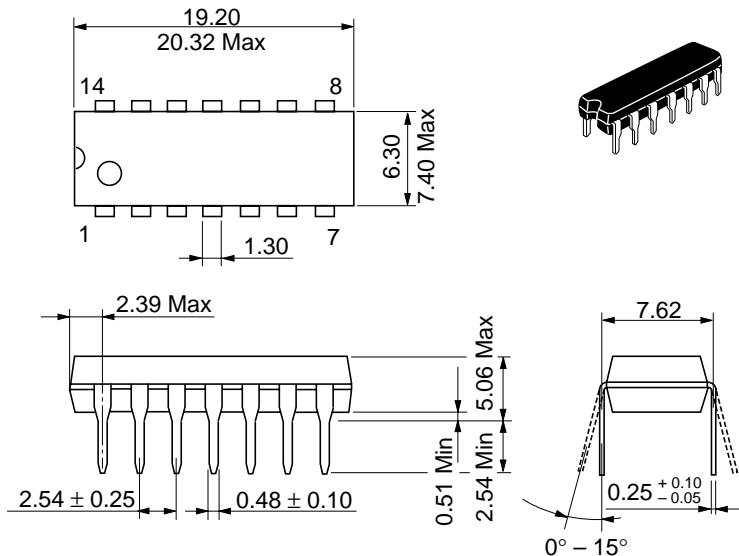
* $V_{CC}=5\text{V}, T_a=25^\circ\text{C}$

** I_{CC} is measured with one input of each gate at 4.5V, the other inputs grounded, and the outputs open.

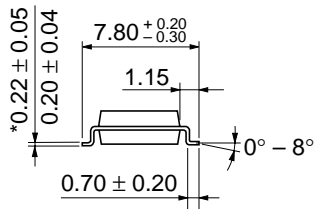
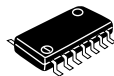
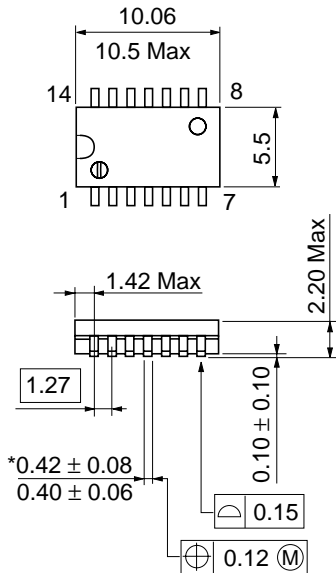
SWITCHING CHARACTERISTICS ($V_{CC}=5\text{V}, T_a=25^\circ\text{C}$)

Item	Symbol	Inputs	Test Conditions	min	typ	max	Unit	
Propagation delay time	t_{PLH}	A or B	$C_L=15\text{pF}, R_L=2\text{k}\Omega$	—	18	30	ns	
	t_{PHL}							Other inputs "L"
	t_{PLH}	A or B						Other inputs "H"
	t_{PHL}							

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

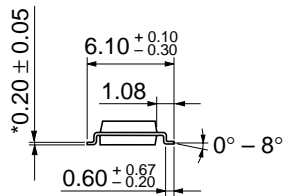
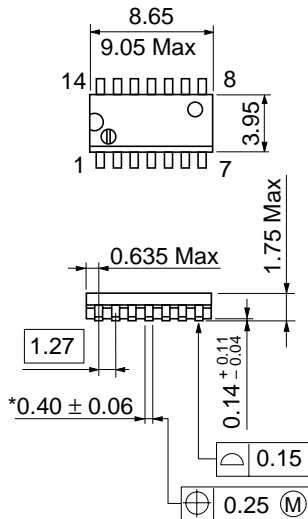


Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.97 g



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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