

HD74LS136

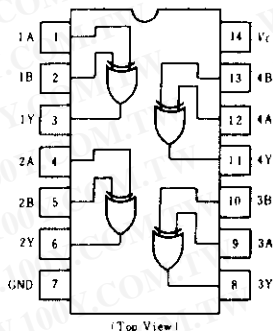
● Quadruple 2-input Exclusive-OR Gates (with open collector outputs)

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



勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

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	

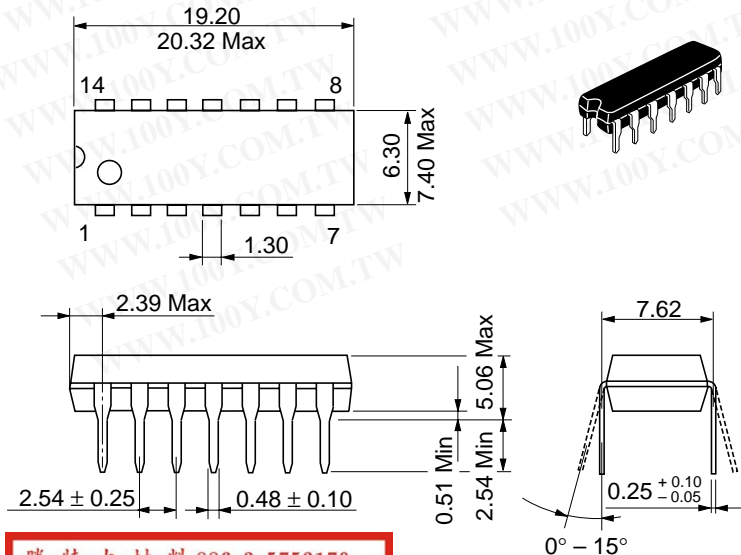
* $V_{CC}=5\text{V}, T_a=25^\circ\text{C}$

** 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}				18	30		
	t_{PLH}	A or B		Other inputs "L"	—	18	30	ns
	t_{PHL}					Other inputs "H"	18	

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

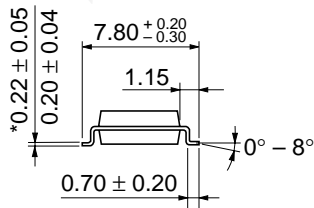
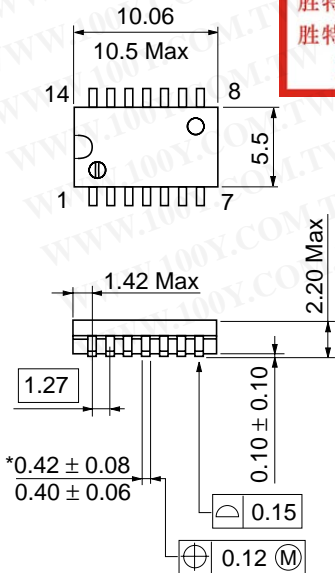
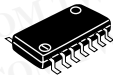


勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

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

Unit: mm

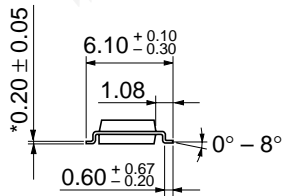
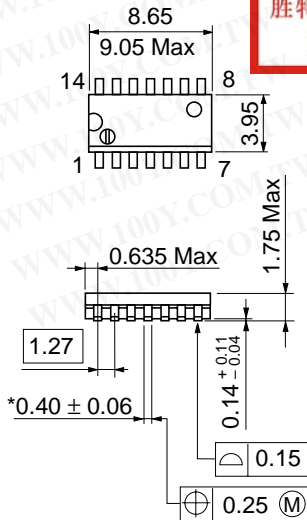
勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



*Dimension including the plating thickness
 Base material dimension

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

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



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

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-54151736
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Cautions

1. Hitachi neither warrants nor grants licenses of any rights of Hitachi's or any third party's patent, copyright, trademark, or other intellectual property rights for information contained in this document. Hitachi bears no responsibility for problems that may arise with third party's rights, including intellectual property rights, in connection with use of the information contained in this document.
2. Products and product specifications may be subject to change without notice. Confirm that you have received the latest product standards or specifications before final design, purchase or use.
3. Hitachi makes every attempt to ensure that its products are of high quality and reliability. However, contact Hitachi's sales office before using the product in an application that demands especially high quality and reliability or where its failure or malfunction may directly threaten human life or cause risk of bodily injury, such as aerospace, aeronautics, nuclear power, combustion control, transportation, traffic, safety equipment or medical equipment for life support.
4. Design your application so that the product is used within the ranges guaranteed by Hitachi particularly for maximum rating, operating supply voltage range, heat radiation characteristics, installation conditions and other characteristics. Hitachi bears no responsibility for failure or damage when used beyond the guaranteed ranges. Even within the guaranteed ranges, consider normally foreseeable failure rates or failure modes in semiconductor devices and employ systemic measures such as fail-safes, so that the equipment incorporating Hitachi product does not cause bodily injury, fire or other consequential damage due to operation of the Hitachi product.
5. This product is not designed to be radiation resistant.
6. No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without written approval from Hitachi.
7. Contact Hitachi's sales office for any questions regarding this document or Hitachi semiconductor products.

HITACHI

HITACHI