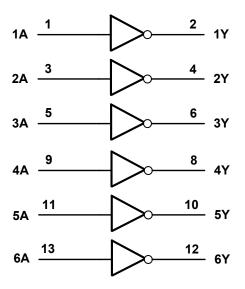


Pin Descriptions

Pin Number	Pin Name	Function
1	1A	Data Input
2	1Y	Data Output
3	2A	Data Input
4	2Y	Data Output
5	3A	Data Input
6	3Y	Data Output
7	GND	Ground
8	4Y	Data Output
9	4A	Data Input
10	5Y	Data Output
11	5A	Data Input
12	6Y	Data Output
13	6A	Data Input
14	Vcc	Supply Voltage

Logic Diagram



Function Table

Input	Output
Α	Y
Н	L
L	Н



Absolute Maximum Ratings (Note 4) (@TA = +25°C, unless otherwise specified.)

Symbol	Description	Rating	Unit
ESD HBM	Human Body Model ESD Protection	2	KV
ESD CDM	Charged Device Model ESD Protection	1	KV
ESD MM	Machine Model ESD Protection	200	V
V _{CC}	Supply Voltage Range	-0.5 to +7.0	V
VI	Input Voltage Range (Note 5)	-0.5 to +7.0	V
l _{IK}	Input Clamp Current $V_1 < -0.5V$ or $V_1 > V_{CC} +0.5V$	±20	mA
I _{OK}	Output Clamp Current $V_O < -0.5V$ or $V_O > V_{CC} +0.5V$	±20	mA
Io	Continuous Output Current -0.5V < V _O V _{CC} +0.5V	+/- 25	mA
Icc	Continuous Current Through Vcc	50	mA
I _{GND}	Continuous Current Through GND	-50	mA
TJ	Operating Junction Temperature	-40 to +150	°C
T _{STG}	T _{STG} Storage Temperature		°C
P _{TOT}	Total Power Dissipation	500	mW

Notes:

Recommended Operating Conditions (Note 6) (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Max	Unit
V _{CC}	Supply Voltage		4.5	5.5	V
VI	Input Voltage		0	Vcc	V
Vo	Output Voltage		0	V _{CC}	V
Δt/ΔV	Input Transition Rise or Fall Rate	$V_{CC} = 4.5V$ to 5.5V	_	500	ns/V
T _A	Operating Free-Air Temperature		-40	+125	°C

Note: 6. Unused inputs should be held at V_{CC} or Ground.

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	V	T _A = -40°C	to +85°C	T _A = -40°C	to +125°C	Unit
Syllibol	Parameter	rest Conditions	V _{CC}	Min	Max	Min	Max	Ullit
V _{IH}	High-Level Input Voltage		4.5V to 5.5V	2.0		2.0	_	V
V _{IL}	Low-Level Input Voltage		4.5V to 5.5V	_	0.8	_	0.8	V
	High-Level Output	I _{OH} = -20μA	4.5V	4.4	_	4.4	_	V
V _{OH}	Voltage	I _{OH} = -4mA	4.5V	3.80	_	3.70	_]
	Low-Level Output	I _{OL} = 20μA	4.5V	_	0.1	_	0.1	V
V _{OL}	Voltage	I _{OL} = 5.2mA	6.0V	_	0.33	_	0.4	V
lı	Input Current	V _I = GND to 6.0V	6.0V	_	± 1	_	± 1	μA
Icc	Supply Current	$V_I = GND \text{ or } V_{CC}, I_O = 0$	6.0V	_	20	_	40	μA
ΔI _{CC}	Additional Supply Current	One input at V _{CC} -2.1V Other pins at V _{CC} or GND	4.5V to 5.5V	_	675	_	735	μA

^{4.} Stresses beyond the absolute maximum may result in immediate failure or reduced reliability. These are stress values and device operation should be within recommend values.

^{5.} Input Voltage cannot exceed V_{CC} to the extent the Maximum clamp current is exceeded.



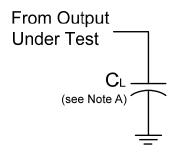
Switching Characteristics

Symbol	Parameter	Test	V	7	Γ _A = +25°(3	-40°C to +85°C	-40°C to +125°C	Unit
Syllibol	Farameter	Conditions	V _{CC}	Min	Тур	Max	Max	Max	Oilit
t _{PD}	Propagation Delay A _N to Y _N	Figure 1 C _L = 50pF	4.5V	_	12	22	24	29	ns
t _t	Transition time	Figure 1 C _L = 50pF	4.5V	_	7	29	29	29	ns

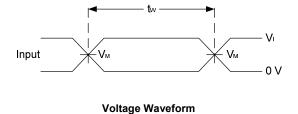
Operating Characteristics (@T_A = +25°C, unless otherwise specified.)

Parameter		Test Conditions	V _{CC} = 5.5V Typ	Unit
C _{pd}	Power Dissipation Capacitance per Gate	f = 1MHz	22	pF
Cı	Input Capacitance	$V_I = V_{CC} - \text{ or GND}$	4	pF

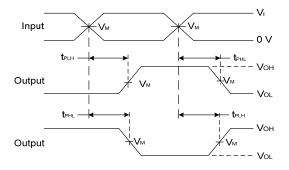
Parameter Measurement Information



Vcc	Inp	uts	V _M	CL
	VI	t _r /t _f		
4.5V	3.0V	3ns	1.5V	V _{OH} /2



Pulse Duration



Voltage Waveform Propagation Delay Times Inverting and Non Inverting Outputs

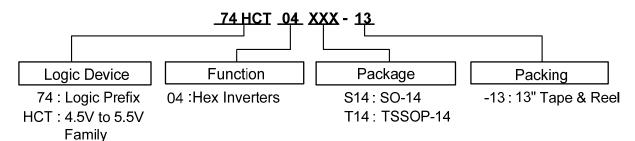
Notes: A.Includes test lead and test apparatus capacitance.

- B. All pulses are supplied at pulse repetition rate ≤ 1 MHz
- C. Inputs are measured separately one transition per measurement
- D. t_{PLH} and t_{PHL} are the same as t_{PD}

Figure 1 Load Circuit and Voltage Waveforms



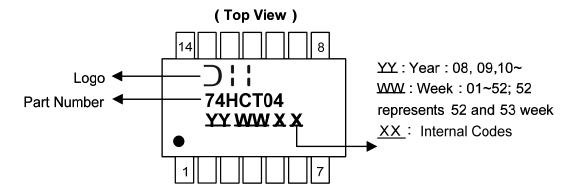
Ordering Information



	Dovice Package Code		Device Package Code Packaging		7" Tape and Reel	
	Device	Package Code	Packaging	Quantity	Part Number Suffix	
Pb Lead-free Green	74HCT04S14-13	S14	SO-14	2500/Tape & Reel	-13	
(Pb)	74HCT04T14-13	T14	TSSOP-14	2500/Tape & Reel	-13	

Marking Information

(1) SO-14, TSSOP-14



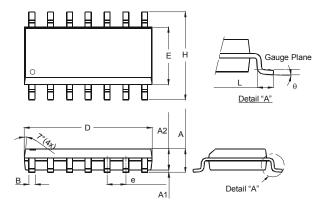
Part Number	Package
74HCT04S14	SO-14
74HCT04T14	TSSOP-14



Package Outline Dimensions (All dimensions in mm.)

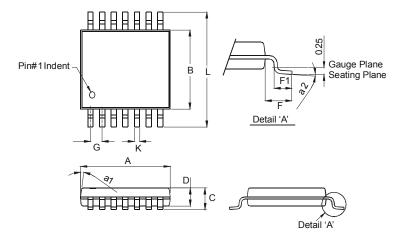
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.

Package Type: SO-14



	SO-14					
Dim	Min	Max				
Α	1.47	1.73				
A 1	0.10	0.25				
A2	1.45	Тур				
В	0.33	0.51				
D	8.53	8.74				
Е	3.80	3.99				
е	1.27	Тур				
Н	5.80	6.20				
L	0.38	1.27				
θ	0°	8°				
All Dimensions in mm						

Package Type: TSSOP-14



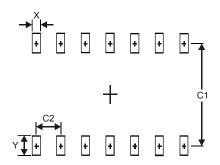
TSSOP-14					
Dim	Min	Max			
a1	7° (4X)			
a2	0°	8°			
Α	4.9	5.10			
В	4.30	4.50			
O	_	1.2			
D	0.8	1.05			
F	1.00	Тур			
F1	0.45	0.75			
G	G 0.65 Typ				
K	0.19	0.30			
Г	6.40 Typ				
All Dimensions in mm					



Suggested Pad Layout

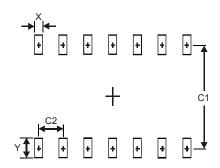
Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for latest version.

Package Type: SO-14



Dimensions	Value (in mm)
Х	0.60
Y	1.50
C1	5.4
C2	1.27

Package Type: TSSOP-14



Value (in mm)
0.45
1 45
5.9
0.65



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