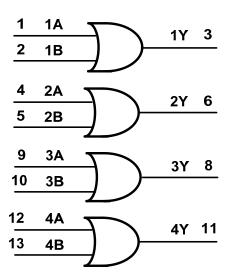


Pin Descriptions

Pin Number	Pin Name	Function
1	1A	Data Input
2	1B	Data Input
3	1Y	Data Output
4	2A	Data Input
5	2B	Data Input
6	2Y	Data Output
7	GND	Ground
8	3Y	Data Output
9	3A	Data Input
10	3B	Data Input
11	4Y	Data Output
12	4A	Data Input
13	4B	Data Input
14	V _{CC}	Supply Voltage

Logic Diagram



Function Table

Inp	Output	
Α	В	Y
L	L	L
Н	Х	Н
Х	Н	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
I _{IK}	Input Clamp Current V _I < -0.5V or Vi > V _{CC} +0.5V	±20	mA
lok	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}	Storage Temperature	-65 to +150	°C
P _{TOT}	Total Power Dissipation	500	mW

Notes:

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

Symbol	Parameter	Conditions	Min	Max	Unit
V _{CC}	Supply Voltage		2.0	6.0	V
VI	Input Voltage		0	V _{CC}	V
Vo	Output Voltage		0	V _{CC}	V
		V _{CC} = 2.0V		625	
Δt/ΔV	Input Transition Rise or Fall Rate	$V_{CC} = 4.5V$		140	ns/V
	Tale .	$V_{CC} = 6.0V$		85	
T _A	Operating Free-Air Temperature		-40	+125	°C

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

^{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.



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

Comple of	Parameter	Took Conditions	.,	T _A = -40°0	C to +85°C	T _A = -40°C	to +125°C	l lmi4
Symbol		Test Conditions	Vcc	Min	Max	Min	Max	Unit
			2.0V	1.5		1.5		
V_{IH}	High-level Input Voltage		4.5V	3.15		3.15		V
	input voltage		6.0V	4.2		4.2]
	Lavolaval		2.0V		0.5		0.5	
V_{IL}	Low-level input voltage		4.5V		1.35		1.35	V
	input voltage		6.0V		1.8		1.8	
		I _{OH} = -20μA	2.0V	1.9		1.9		
		I _{OH} = -20μA	4.5V	4.4		4.4]
Voh	High-level Output Voltage	I _{OH} = -20μA	6.0V	5.9		5.9		V
	Output Voltage	I _{OH} = -4.0mA	4.5V	3.84		3.7		
		I _{OH} = -5.2mA	6.0V	5.34		5.2]
		I _{OL} = 20μA	2.0V		0.1		0.1	
		I _{OL} = 20μA	4.5V		0.1		0.1	
V_{OL}	Low -level Output Voltage	I _{OL} = 20μA	6.0V		0.1		0.1	V
	Output Voltage	I _{OL} = 4mA	4.5V		0.33		0.44	1
		I _{OL} = 5.2mA	6.0V		0.33		0.44	1
II	Input Current	V _I =GND to 5.5V	6.0V		±1		±1	μΑ
Icc	Supply Current	$V_I = GND \text{ or } V_{CC}, I_O = 0$	6.0V		20		40	μΑ

Switching Characteristics

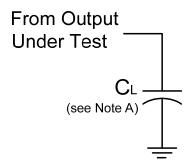
Symbol	Parameter	Test	V	7	Γ _A = +25°0	;	-40°C to +85°C	-40°C to +125°C	Unit
Syllibol	Parameter	Conditions	V _{CC}	Min	Тур	Max	Max	Max	Ollit
	December Dales	Figure 1	2.0V	_	25	90	115	135	
t _{PD}	Propagation Delay Figure 1 A_N to Y_N $C_1 = 50 pF$	$C_1 = 50 \text{ pF}$	4.5V	_	9	18	23	27	ns
	A _N to 1 _N	CL = 50 PF	6.0V	_	7	15	20	23	
		Figure 1	2.0V	_	19	75	95	110	
t _t Transition Time	Figure 1 - C _L = 50 pF -	4.5V	_	7	15	19	22	ns	
		OL = 30 PF	6.0V	_	6	13	16	19	

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

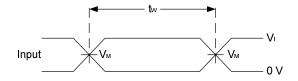
Parameter		Test Conditions	V _{CC} = 6V Typ	Unit
C _{pd}	Power Dissipation Capacitance per Gate	f = 1MHz	20	pF
C _I	Input Capacitance	$V_1 = V_{CC} - \text{or GND}$	4	pF



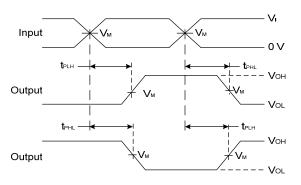
Parameter Measurement Information



V _{CC}	Inp	outs	V _M	CL	
	VI	t_r/t_f			
2.0V to 6.0V	V _{CC}	6ns	V _{CC} /2	15pF,50pF	



Voltage Waveform Pulse Duration



Voltage Waveform Propagation Delay Times Inverting and Non Inverting Outputs

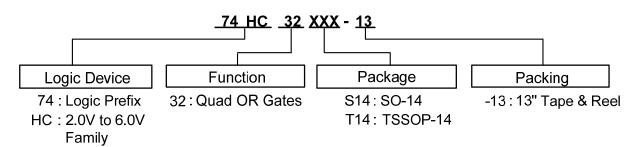
Notes: A. Includes test lead and test apparatus capacitance.

- B. All pulses are supplied at pulse repetition rate \leq 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



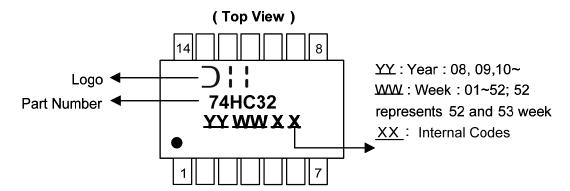
Ordering Information



	Device	Packaging Packaging		7" Tape a	and Reel
	Device	Fackage Code	(Note 7)	Quantity	Part Number Suffix
Pb Lead-free Green	74HC32S14-13	S14	SO-14	2500/Tape & Reel	-13
Pb	74HC32T14-13	T14	TSSOP-14	2500/Tape & Reel	-13

Marking Information

(1) SO-14, TSSOP-14



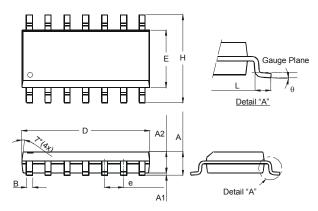
Part Number	Package
74HC32S14	SO-14
74HC32T14	TSSOP-14



Package Outline Dimensions (All dimensions in mm.)

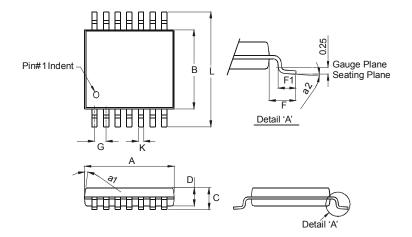
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.

Package Type: SO-14



	SO-14				
Dim	Dim Min Max				
Α	1.47	1.73			
A 1	0.10	0.25			
A2	1.45 Typ				
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 Di	mensions	s in mm			

Package Type: TSSOP-14



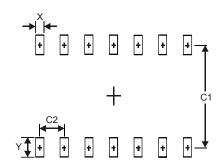
-	TSSOP-1	4		
Dim	Min	Max		
a1	7° (4X)		
a2	0°	8°		
Α	4.9	5.10		
В	4.30	4.50		
C		1.2		
D	0.8	1.05		
F	1.00	Тур		
F1	0.45	0.75		
O	0.65 Typ			
K	0.19	0.30		
L	6.40	Тур		
All Dimensions in mm				



Suggested Pad Layout

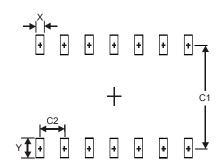
Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for latest version.

Package Type: SO-14



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

Package Type: TSSOP-14



Dimensions	Value (in mm)
X	0.45
Y	1.45
C1	5.9
C2	0.65



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