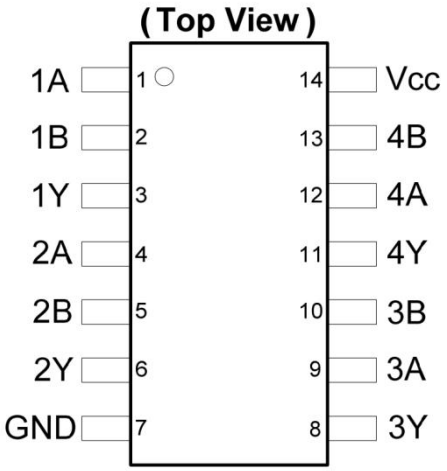
1. DESCRIPTION

These devices contain four independent 2-input OR gates.

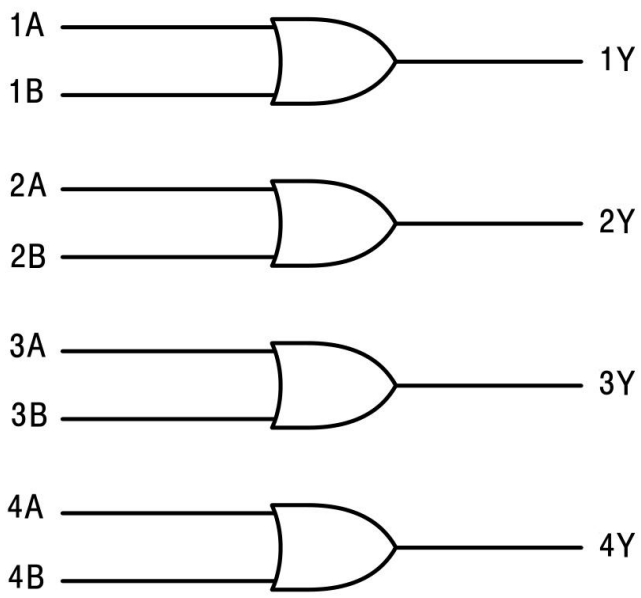
The XL74LS32,XD74LS32 are characterized for operation from 0℃ to 70℃.

2. PIN CONFIGURATIONS

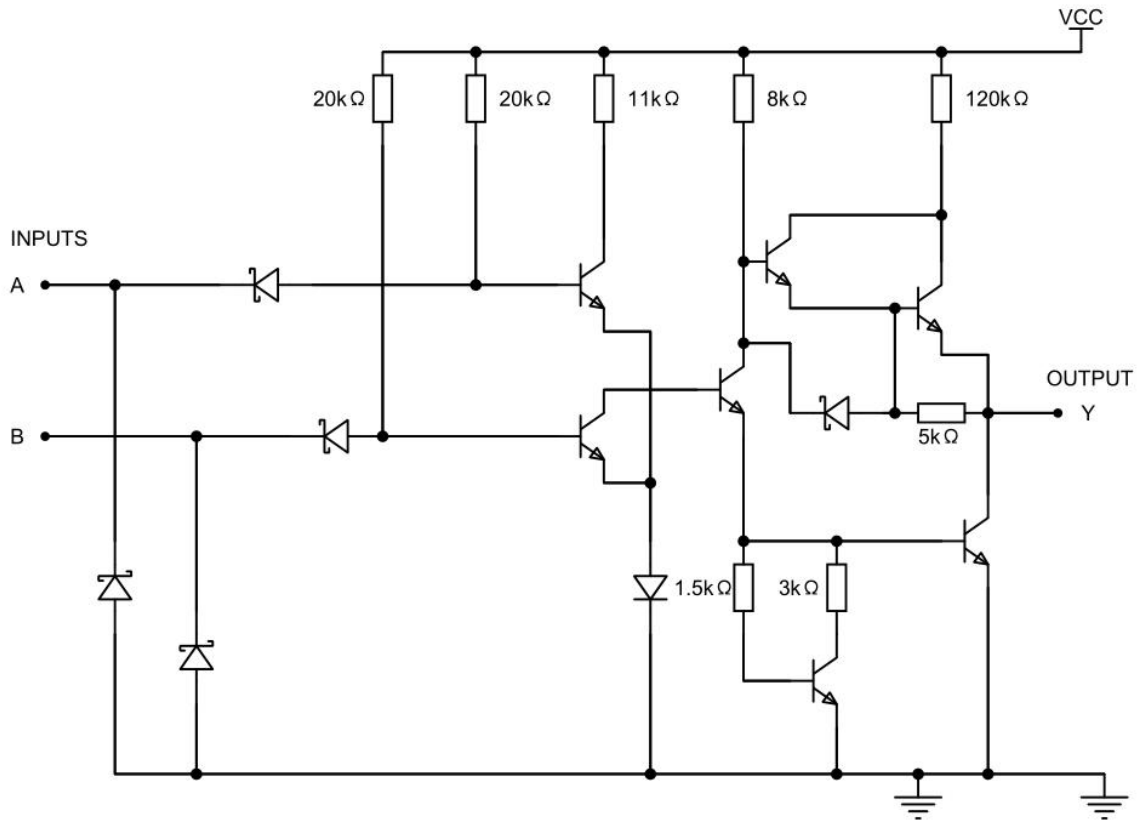


INPUTS		OUTPUT
A	B	Y
H	X	H
X	H	H
L	L	L

3. LOGIC DIAGRAM



4. SCHEMATICS (each gate)



5. ABSOLUTE MAXIMUM RATINGS OVER OPERATING FREE-AIR TEMPERATURE RANGE (UNLESS OTHERWISE NOTES)

Supply voltage, V_{CC} (see Note 1)..... 7V

Input voltage, VI: 74LS32..... 7V

Operating free-air temperature range: SOP package..... 0°C to 70°C

DIP package..... 0°C to 70°C

Storage temperature range, Tstg..... −65°C to 150°C

NOTE 1: Voltage values are with respect to network ground terminal.

6. RECOMMENDED OPERATING CONDITIONS

		XL/XD74LS32			UNIT
		MIN	NOM	MAX	
V_{CC}	Supply voltage	4.75	5	5.25	V
V_{IH}	High-level input voltage	2			V
V_{IL}	Low-level input voltage			0.8	V
I_{OH}	High-level output current			−0.4	mA
I_{OL}	Low-level output current			8	mA
T_A	Operating free-air temperature	0		70	°C

7. ELECTRICAL CHARACTERISTICS OVER RECOMMENDED OPERATING FREE-AIR RANGE (UNLESS OTHERWISE NOTED)

PARAMETER	TEST CONDITIONS†			XL/XD74LS32			UNIT
				MIN	TYP‡	MAX	
V_{IK}	V_{CC} = MIN, I_I = −18 mA					−1.5	V
V_{OH}	V_{CC} = MIN, V_{IL} = MAX, I_{OH} = −0.4 mA			2.7	3.4		V
V_{OL}	V_{CC} = MIN, V_{IH} = 2 V	I_{OL} = 4 mA			0.25	0.4	V
		I_{OL} = 8 mA			0.35	0.5	
I_I	V_{CC} = MAX, V_I = 7 V					0.1	mA
I_{IH}	V_{CC} = MAX, V_I = 2.7 V					20	μA
I_{IL}	V_{CC} = MAX, V_I = 0.4 V					−0.4	mA
I_{OS}§	V_{CC} = MAX			−20		−100	mA
I_{CCH}	V_{CC} = MAX, V_I = 4.5 V				3.1	6.2	mA
I_{CCL}	V_{CC} = MAX, V_I = 0 V				4.9	9.8	mA

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.
‡ All typical values are at V_{CC} = 5 V, T_A = 25°C.
§ Not more than one output should be shorted at a time, and the duration of the short-circuit should not exceed one second.

NOTE 2: One input at 4.5V, all others at GND.

8. SWITCHING CHARACTERISTICS,VCC = 5 V, TA = 25℃(see note 3)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	XL/XD74LS32			UNIT
				MIN	TYP	MAX	
t_{PLH}	A or B	Y	RL = 2 kΩ, CL = 15 pF		14	22	ns
t_{PHL}					14	22	ns

NOTE 3: Load circuits and voltage waveforms are shown in Section 1.

9. ORDERING INFORMATION

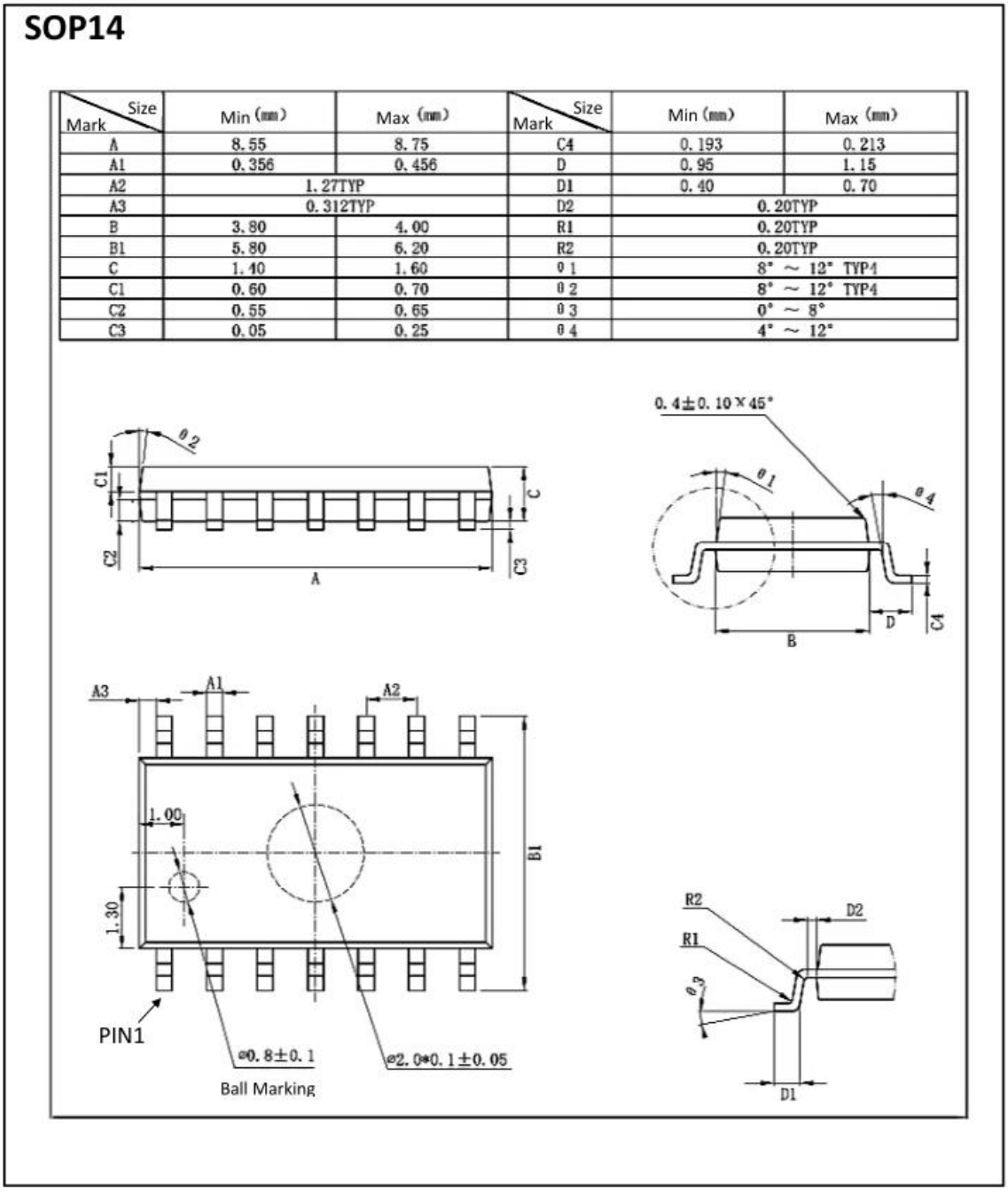
Ordering Information

Part Number	Device Marking	Package Type	Body size (mm)	Temperature (°C)	MSL	Transport Media	Package Quantity
XL74LS32	XL74LS32	SOP14	8.75 * 4.00	-0 to 70	MSL3	T&R	2500
XD74LS32	XD74LS32	DIP14	19.05 * 6.35	-0 to 70	MSL3	Tube 25	1000

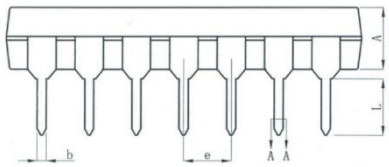
10. DIMENSIONAL DRAWINGS

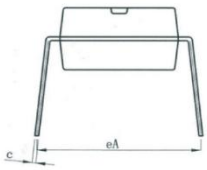
SOP14

Size / Mark	Min (mm)	Max (mm)	Size / Mark	Min (mm)	Max (mm)
A	8.55	8.75	C4	0.193	0.213
A1	0.356	0.456	D	0.95	1.15
A2	1.27TYP		D1	0.40	0.70
A3	0.312TYP		D2	0.20TYP	
B	3.80	4.00	R1	0.20TYP	
B1	5.80	6.20	R2	0.20TYP	
C	1.40	1.60	θ1	8° ~ 12° TYP4	
C1	0.60	0.70	θ2	8° ~ 12° TYP4	
C2	0.55	0.65	θ3	0° ~ 8°	
C3	0.05	0.25	θ4	4° ~ 12°	

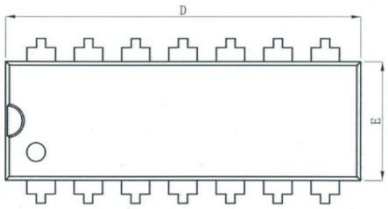


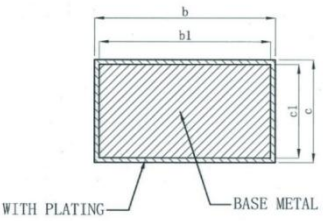
DIP14





symbol	millimeter		
	Min	Nom	Max
A	3.20	3.30	3.40
b	0.44	——	0.53
b1	0.43	0.46	0.49
c	0.25	——	0.30
c1	0.24	0.25	0.26
D	18.95	19.05	19.15
E	6.25	6.35	6.45
e	2.54BSC		
eA	8.30	8.80	9.30
L	3.00	——	——





SECTION A-A