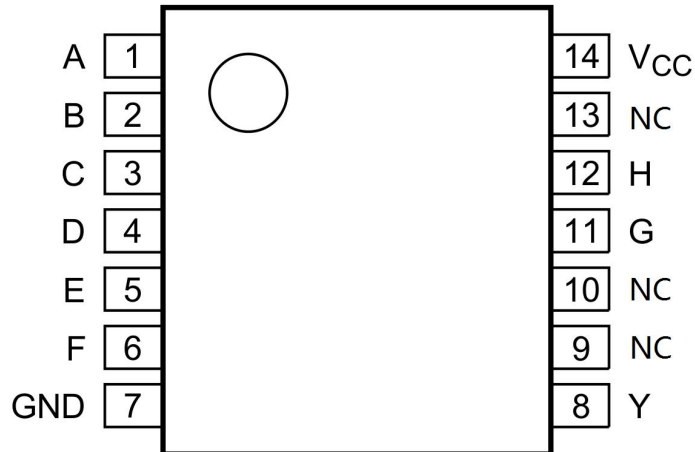


1. DESCRIPTION

These devices contain four independent 8-input NAND gates.

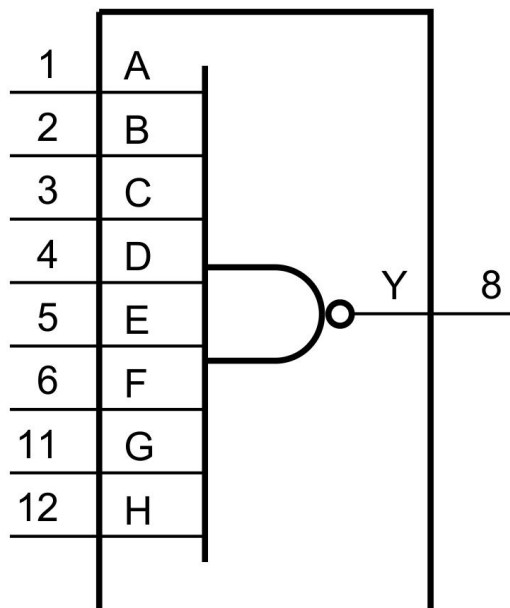
The XL74LS30, XD74LS30 are characterized for operation from 0°C to 70°C.

2. PIN CONFIGURATIONS

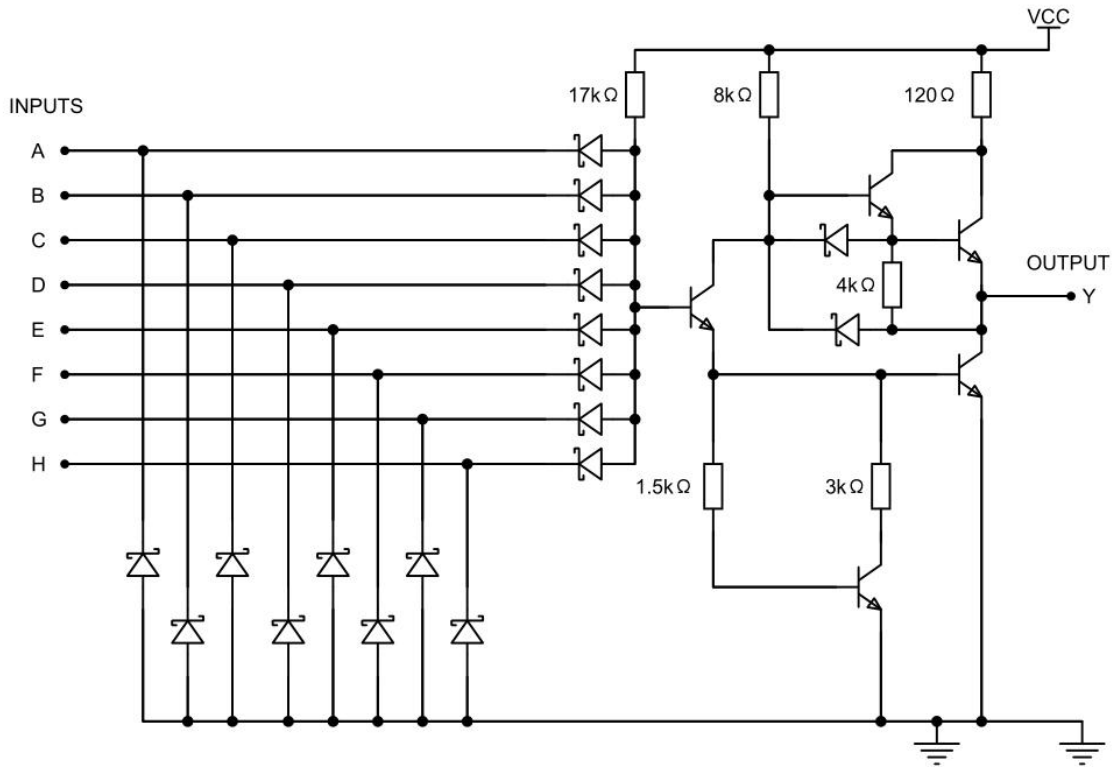


INPUTS	OUTPUT Y
All inputs H	L
One or more inputs L	H

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, V_I : 74LS30.....	7V
Operating free-air temperature range: SOP package.....	0°C to 70°C
DIP package.....	0°C to 70°C
Storage temperature range, T_{stg}	-65°C to 150°C

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

6. RECOMMENDED OPERATING CONDITIONS

		XL/XD74LS30			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/XD74LS30			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			0.4	V
				0.25	
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		0.35	0.5	mA
I _{CCL}	V _{CC} = MAX, V _I = 0 V		0.6	1.1	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.

8. SWITCHING CHARACTERISTICS, V_{CC} = 5 V, T_A = 25°C (see note 3)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	XL/XD74LS30			UNIT
				MIN	TYP	MAX	
t _{PLH}	Any	Y	R _L = 2 kΩ, CL = 15 pF		8	15	ns
t _{PHL}					13	20	ns

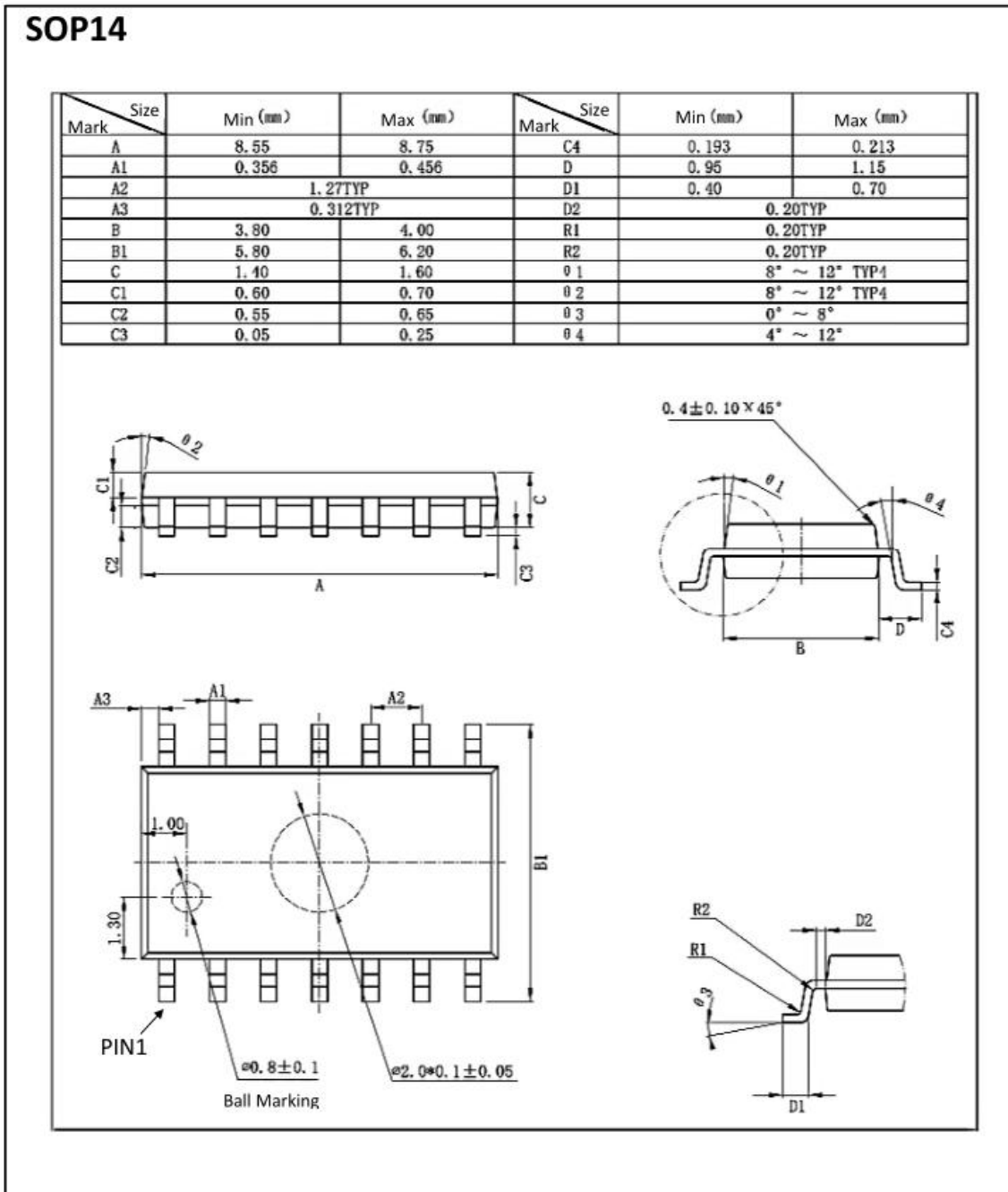
NOTE 2: Load circuits and voltage waveforms are shown in Section 1.

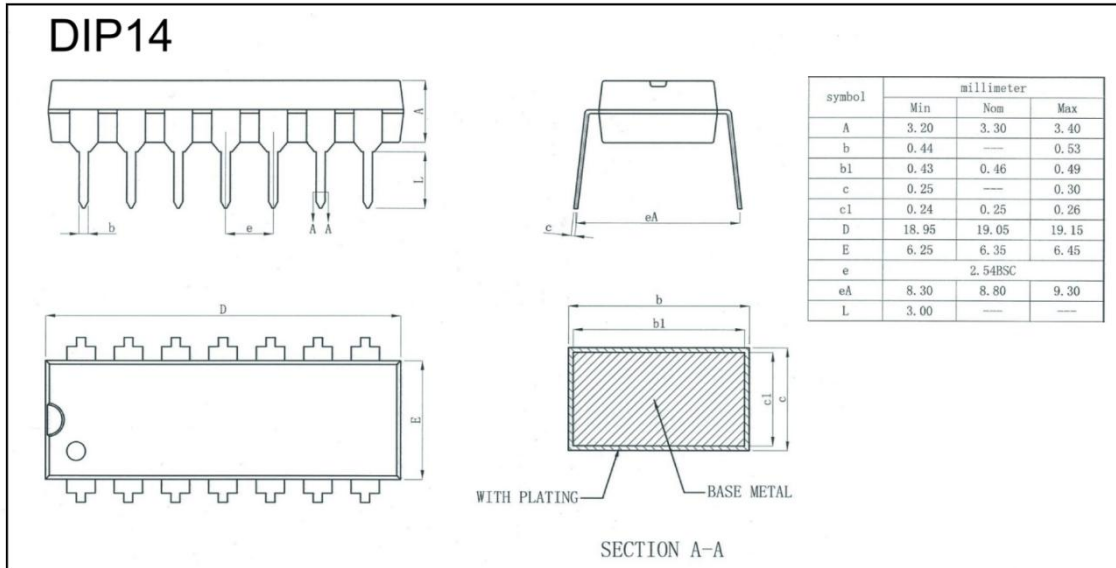
9. ORDERING INFORMATION

Ordering Information

Part Number	Device Marking	Package Type	Body size (mm)	Temperature (°C)	MSL	Transport Media	Package Quantity
XL74LS30	XL74LS30	SOP14	8.75 * 4.00	-0 to 70	MSL3	T&R	2500
XD74LS30	XD74LS30	DIP14	19.05 * 6.35	-0 to 70	MSL3	Tube 25	1000

10. DIMENSIONAL DRAWINGS





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