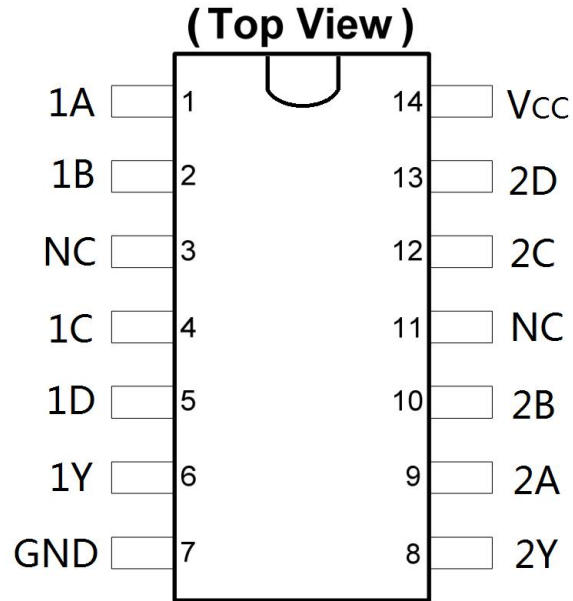


1. DESCRIPTION

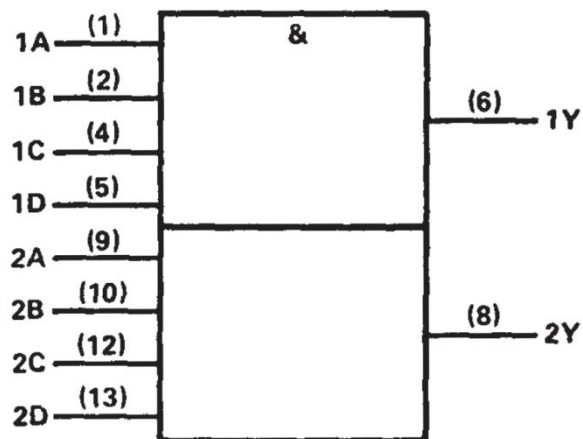
These devices contain two independent 4-input AND gates.

The XD74LS21 are characterized for operation from 0°C to 70°C.

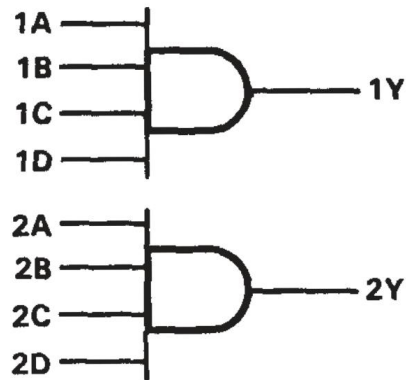
2. PIN CONFIGURATIONS



3. LOGIC SYMBOL



4. LOGIC DIAGRAM

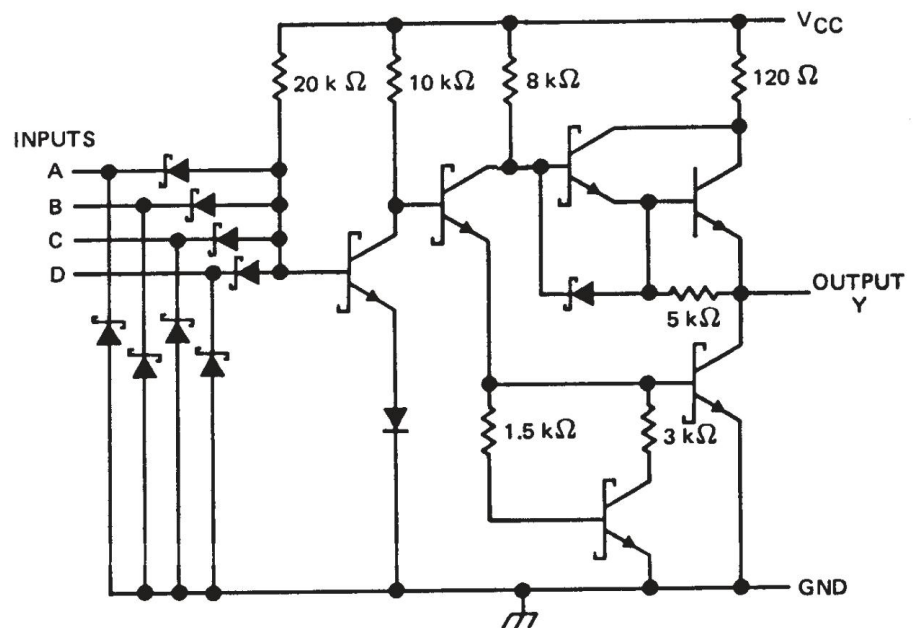


(positive logic) $Y = A \cdot B \cdot C \cdot D$ or $Y = \overline{\overline{A} + \overline{B} + \overline{C} + \overline{D}}$

FUNCTION TABLE (each gate)

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

5. SCHEMATICS (each gate)



Resistor values shown are nominal.

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

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

Input voltage, V_I : 74LS21..... 7V

Operating free-air temperature range: 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 terminals.

7. RECOMMENDED OPERATING CONDITIONS (SEE NOTE 3)

		XD74LS21			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

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

PARAMETER	TEST CONDITIONS [†]	XD74LS21			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		0.25	0.4	V
			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		1.2	2.4	mA
I _{CCL}	V _{CC} = MAX, V _I = 0 V		2.2	4.4	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.

9. SWITCHING CHARACTERISTICS, V_{CC} = 5 V, T_A = 25 °C (see Figure 2)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	XD74LS21			UNIT
				MIN	TYP	MAX	
t _{PLH}	Any	Y	R _L = 2 kΩ, C _L = 15 pF		8	15	ns
t _{PHL}					10	20	ns

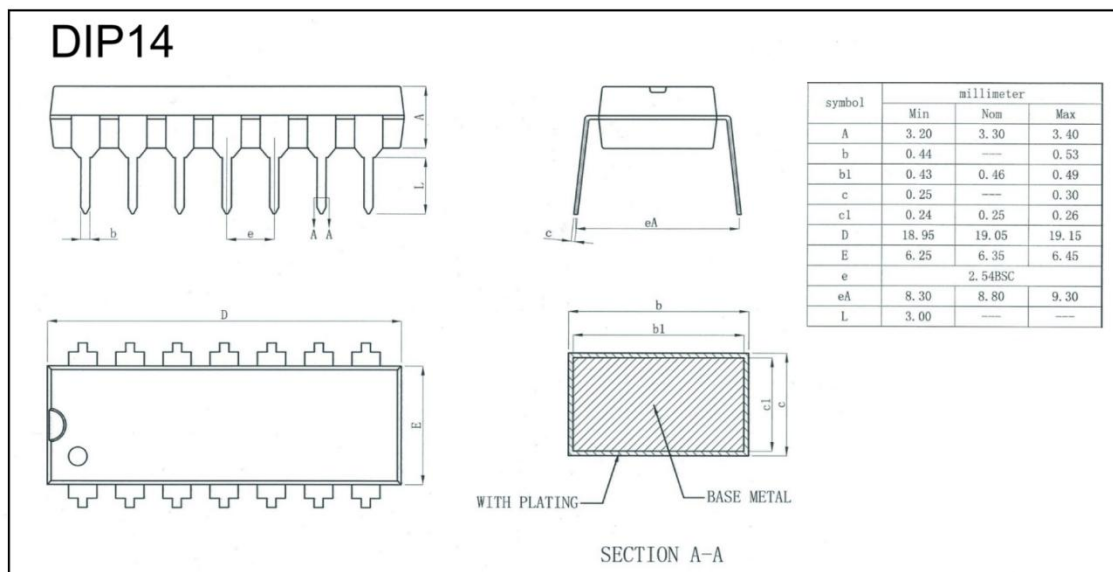
NOTE 2: Load circuits and voltage waveforms are shown in Section 1.

10. ORDERING INFORMATION

Ordering Information

Part Number	Device Marking	Package Type	Body size (mm)	Temperature (°C)	MSL	Transport Media	Package Quantity
XD74LS21	XD74LS21	DIP14	19.05 * 6.35	-0 to 70	MSL3	Tube 25	1000

11. DIMENSIONAL DRAWINGS



[if you need help contact us. Xinluda reserves the right to change the above information without prior notice]