

description

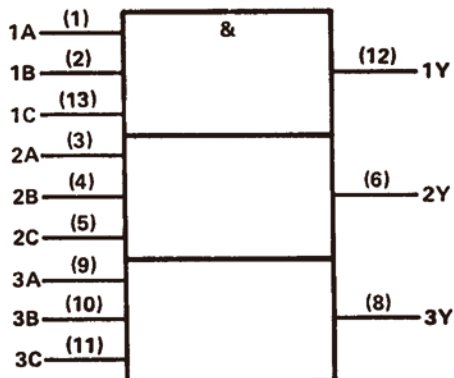
These devices contain three independent 3-input AND gates.

The XD74LS11 and XL74LS11 are characterized for operation over the full military temperature range of -55°C to 125°C . The XD74LS11 and XL74LS11 are characterized for operation from 0°C to 70°C .

FUNCTION TABLE (each gate)

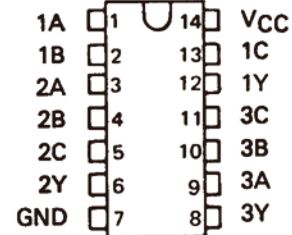
INPUTS			OUTPUT
A	B	C	Y
H	H	H	H
L	X	X	L
X	L	X	L
X	X	L	L

logic symbol†



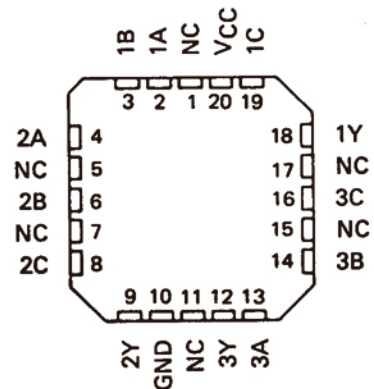
XD74LS11 . . . J OR W PACKAGE
XL74LS11 . . . D OR N PACKAGE

(TOP VIEW)



XD74LS11, XL74LS11 . . . FK PACKAGE

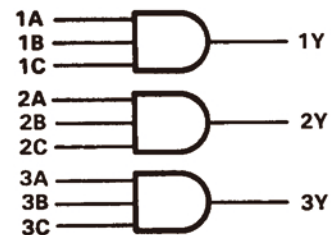
(TOP VIEW)



lo

NC—No internal connection

logic diagram (positive logic)



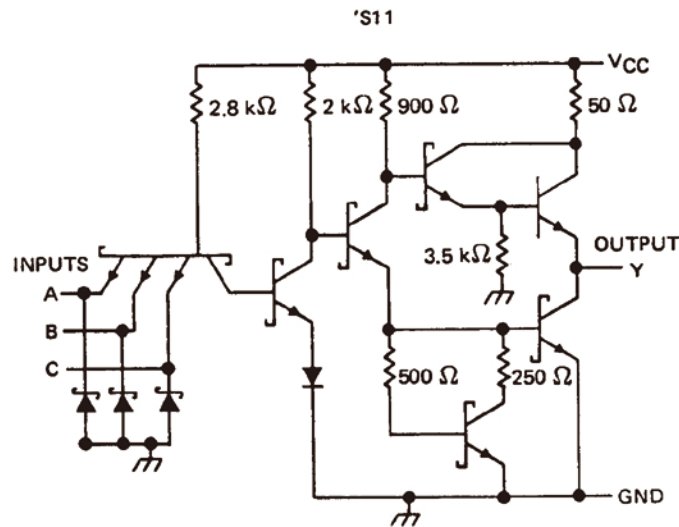
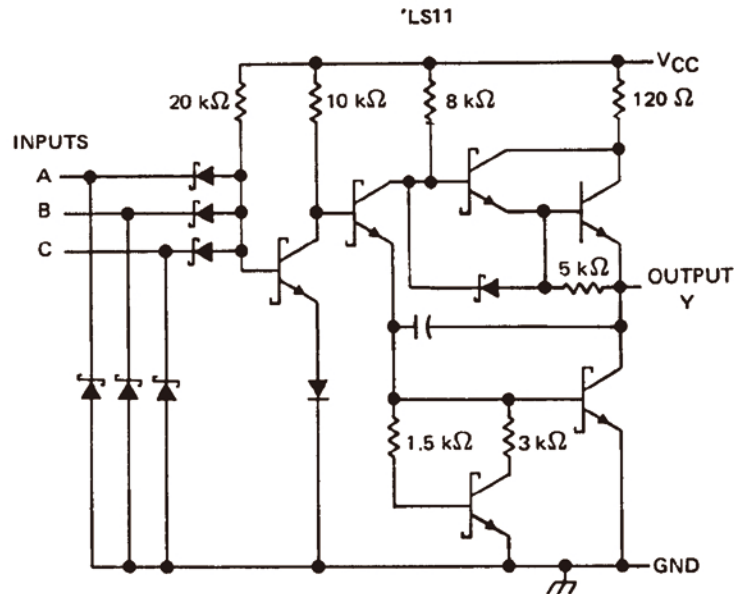
$$Y = A \cdot B \cdot C \text{ or}$$

$$Y = \overline{\overline{A} + \overline{B} + \overline{C}}$$

XD74LS11 DIP14

XL74LS11 SOP14

schematics (each gate)



Resistor values shown are nominal.

absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

Supply voltage, V_{CC} (see Note 1)	7 V
Input voltage: 'S11	5.5 V
'LS11	7 V
Operating free-air temperature range: XD74'	-55 °C to 125 °C
XL74'	0 °C to 70 °C
Storage temperature range	-65 °C to 150 °C

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

XD74LS11 DIP14

XL74LS11 SOP14

recommended operating conditions

	XD74LS11			XL74LS11			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
V_{CC} Supply voltage	4.5	5	5.5	4.75	5	5.25	V
V_{IH} High-level input voltage	2			2			V
V_{IL} Low-level input voltage			0.7			0.8	V
I_{OH} High-level output current			− 0.4			− 0.4	mA
I_{OL} Low-level output current			4			8	mA
T_A Operating free-air temperature	− 55		125	0		70	°C

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER	TEST CONDITIONS †	XD74LS11			XL74LS11			UNIT
		MIN	TYP ‡	MAX	MIN	TYP ‡	MAX	
V_{IK}	$V_{CC} = \text{MIN}, I_I = -18 \text{ mA}$			− 1.5			− 1.5	V
V_{OH}	$V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, I_{OH} = -0.4 \text{ mA}$	2.5	3.4		2.7	3.4		V
V_{OL}	$V_{CC} = \text{MIN}, V_{IL} = \text{MAX}, I_{OL} = 4 \text{ mA}$	0.25	0.4		0.25	0.4		V
	$V_{CC} = \text{MIN}, V_{IL} = \text{MAX}, I_{OL} = 8 \text{ mA}$				0.35	0.5		
I_I	$V_{CC} = \text{MAX}, V_I = 7 \text{ V}$		0.1			0.1		mA
I_{IH}	$V_{CC} = \text{MAX}, V_I = 2.7 \text{ V}$		20			20		μA
I_{IL}	$V_{CC} = \text{MAX}, V_I = 0.4 \text{ V}$		− 0.4			− 0.4		mA
$I_{OS} §$	$V_{CC} = \text{MAX}$	− 20		− 100	− 20		− 100	mA
I_{CCH}	$V_{CC} = \text{MAX}, V_I = 4.5 \text{ V}$		1.8	3.6		1.8	3.6	mA
I_{CCL}	$V_{CC} = \text{MAX}, V_I = 0 \text{ V}$		3.3	6.6		3.3	6.6	mA

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

‡ All typical values are at $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$.

§ Not more than one output should be shorted at a time, and the duration of the short-circuit should not exceed one second.

switching characteristics, $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$ (see note 2)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS		MIN	TYP	MAX	UNIT
t_{PLH}	A, B or C	Y	$R_L = 2 \text{ k}\Omega,$	$C_L = 15 \text{ pF}$		8	15	ns
t_{PHL}						10	20	ns

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

XD74LS11 DIP14

XL74LS11 SOP14

recommended operating conditions

	XD74LS11			XL74LS11			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
V _{CC} Supply voltage	4.5	5	5.5	4.75	5	5.25	V
V _{IH} High-level input voltage	2			2			V
V _{IL} Low-level input voltage			0.8			0.8	V
I _{OH} High-level output current			− 1			− 1	mA
I _{OL} Low-level output current			20			20	mA
T _A Operating free-air temperature	− 55		125	0		70	°C

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER	TEST CONDITIONS †	XD74LS11			XL74LS11			UNIT
		MIN	TYP ‡	MAX	MIN	TYP ‡	MAX	
V _{IK}	V _{CC} = MIN, I _I = − 18 mA			− 1.2			− 1.2	V
V _{OH}	V _{CC} = MIN, V _{IH} = 2 V, I _{OH} = − 1 mA	2.5	3.4		2.7	3.4		V
V _{OL}	V _{CC} = MIN, V _{IL} = 0.8 V, I _{OL} = 20 mA			0.5			0.5	V
I _I	V _{CC} = MAX, V _I = 5.5 V			1			1	mA
I _{IH}	V _{CC} = MAX, V _I = 2.7 V			50			50	μA
I _{IL}	V _{CC} = MAX, V _I = 0.5 V			− 2			− 2	mA
I _{OS} §	V _{CC} = MAX	− 40		− 100	− 40		− 100	mA
I _{CCH}	V _{CC} = MAX, V _I = 4.5 V		13.5	24		13.5	24	mA
I _{CCL}	V _{CC} = MAX, V _I = 0 V		24	42		24	42	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.

switching characteristics, V_{CC} = 5 V, T_A = 25°C (see note 2)

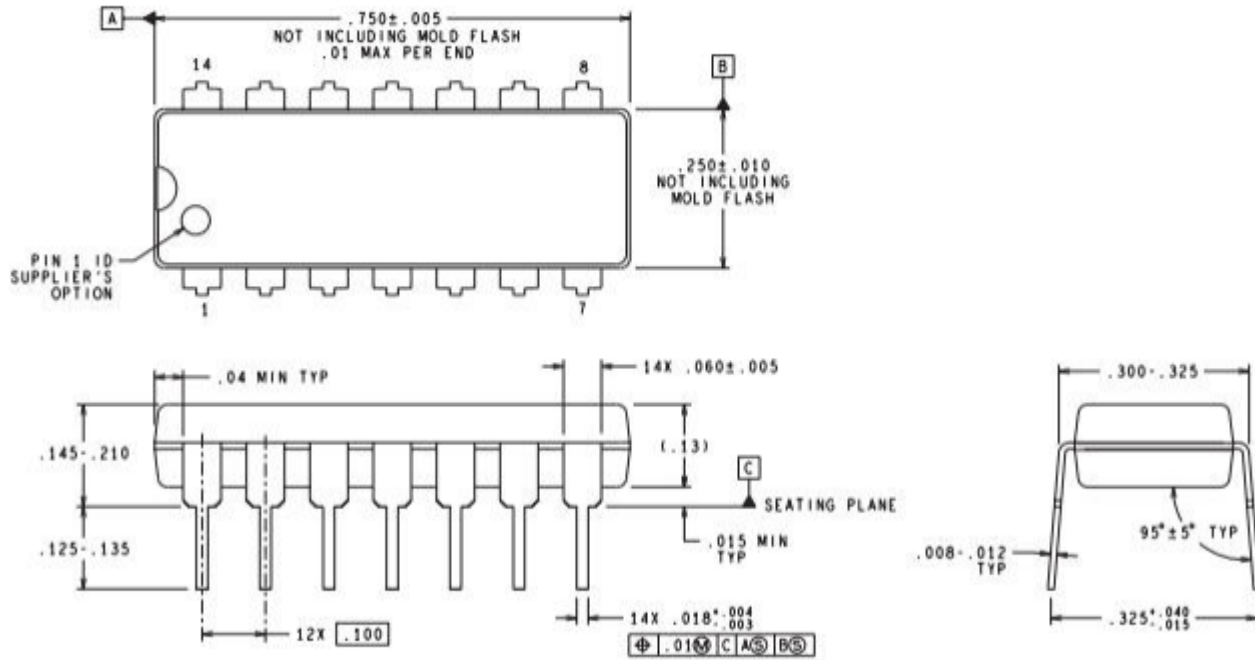
PARAMETER	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
t _{PLH}	A, B or C	Y	R _L = 280 Ω, C _L = 15 pF		4.5	7	ns
t _{PHL}					5	7.5	ns
t _{PLH}			R _L = 280 Ω, C _L = 50 pF		6		ns
t _{PHL}					7.5		ns

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

XD74LS11 DIP14

XL74LS11 SOP14

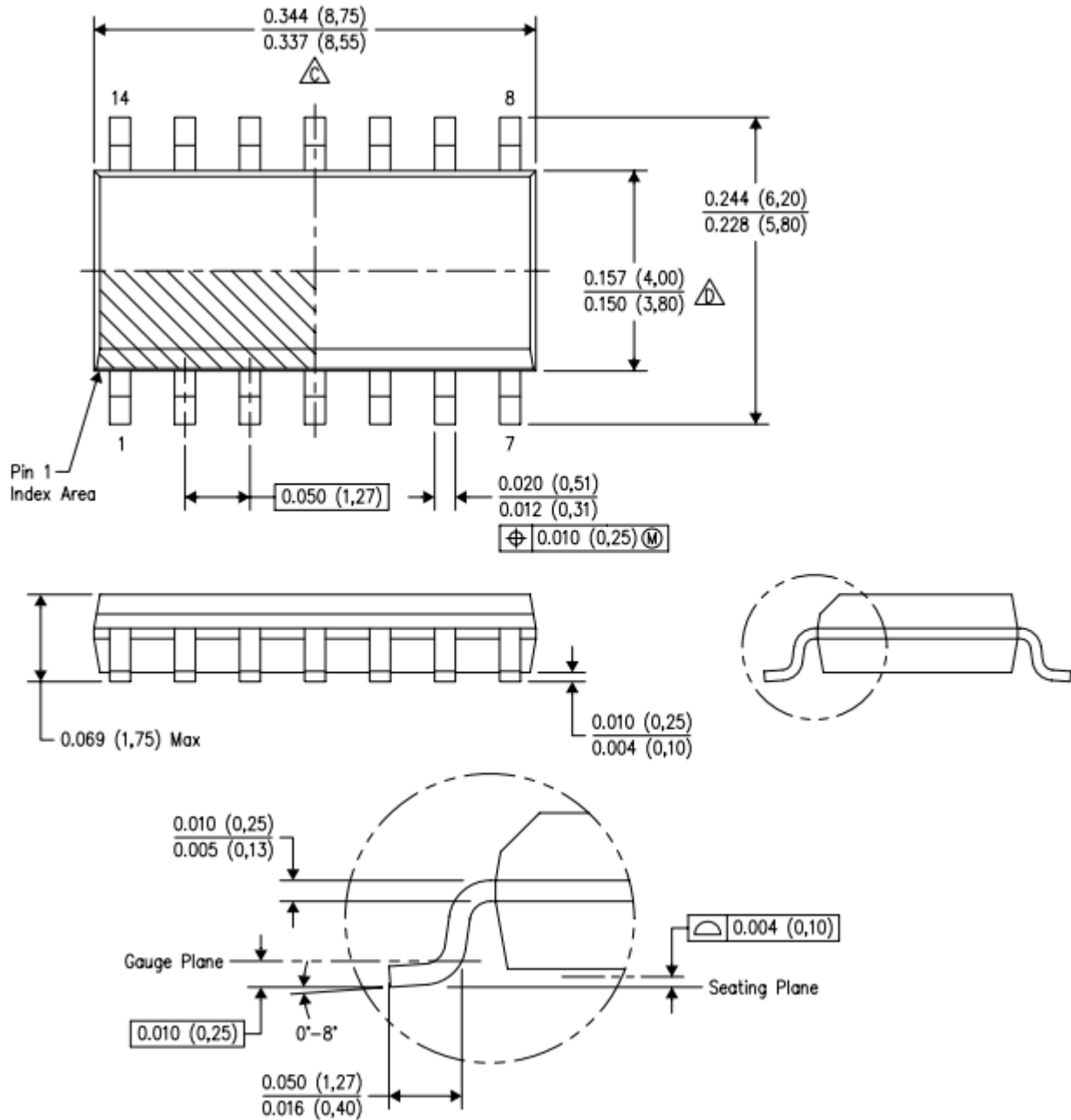
DIP14



DIMENSIONS ARE IN INCHES
DIMENSIONS IN () FOR REFERENCE ONLY

XD74LS11 DIP14

XL74LS11 SOP14



以上信息仅供参考. 如需帮助联系客服人员。谢谢 XINLUDA