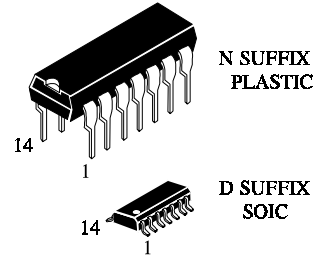


IN74ALS08

**QUADRUPLE 2-INPUT
POSITIVE-AND GATE**

This device contains four independent 2-input positive-AND gates. They perform the Boolean functions $Y = A * B$ or $Y = A + B$ in positive logic.

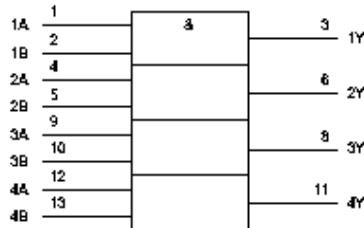
The IN74ALS08 is characterized for operation from 0°C to 70°C.



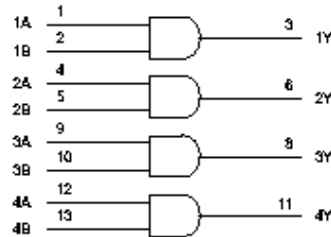
ORDERING INFORMATION

IN74LS08N Plastic
IN74ALS08D SOIC
 $T_A = 0^\circ$ to 70° C for all packages

Logic Symbol



Logic Diagram (Positive Logic)



Function Table

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

ABSOLUTE MAXIMUM RATINGS OVER OPERATING FREE-AIR TEMPERATURE RANGE

Supply voltage, V _{CC}	7V
Input voltage, V _I	7V
Operating free-air temperature range, T _A	0°C to 70°C
Storage temperature range	-65°C to 150°C

RECOMMENDED OPERATING CONDITIONS

		MIN	NOM	MAX	UNIT
V _{CC}	Supply voltage	4.5	5	5.5	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

ELECTRICAL CHARACTERISTICS OVER RECOMMENDED OPERATING FREE-AIR TEMPERATURE RANGE

Parameter	Test Conditions		MIN	TYP**	MAX	UNIT
V _{IK}	V _{CC} = 4.5V	I _I = -18mA			-1.5	V
V _{OH}	V _{CC} = 4.5V to 5.5V	I _{OH} = -0.4mA	V _{CC} -2			V
V _{OL}	V _{CC} = 4.5V	I _{OL} = 4mA		0.25	0.4	V
		I _{OL} = 8mA		0.35	0.5	V
I _I	V _{CC} = 5.5V	V _I = 7V			0.1	mA
I _{IH}	V _{CC} = 5.5V	V _I = 2.7V			20	µA
I _{IL}	V _{CC} = 5.5V	V _I = 0.4V			-0.1	mA
I _O *	V _{CC} = 5.5V	V _O = 2.25V	-30		-112	mA
I _{CCH}	V _{CC} = 5.5V	V _I = 4.5V		1.3	2.4	mA
I _{CCL}	V _{CC} = 5.5V	V _I = 0		2.2	4	mA

*- The output conditions have been chosen to produce a current that closely approximates one half of the true short-circuit output current, I_{OS}

**- All typical values are at V_{CC}=5V, T_A=25°C

SWITCHING CHARACTERISTICS

Parameter	From (input)	To (output)	V _{CC} = 4.5 V to 5.6V C _L = 50 pF R _L = 500 Ω T _A = MIN to MAX*		UNIT
			MIN	MAX	
t _{PHL}	A or B	Y	3	10	ns
t _{PLH}			4	14	ns

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

