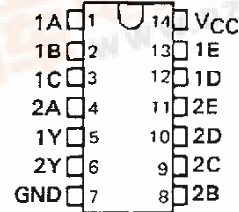# SN54S260, SN74S260
DUAL 5-INPUT POSITIVE-NOR GATES

SDLS208

DECEMBER 1983 — REVISED MARCH 1988

- Package Options Include Ceramic Chip Carriers and Flat Packages in Addition to Plastic and Ceramic DIPs
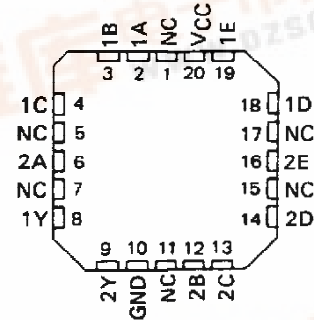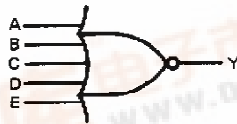- Dependable Texas Instruments Quality and Reliability

description

These devices contain two independent 5-input positive-NOR gates. They perform the Boolean function $Y = \overline{A + B + C + D + E}$ in positive logic.

The SN54S260 is characterized for operation over the full military temperature range of −55°C to 125°C. The SN74S260 is characterized for operation from 0°C to 70°C.
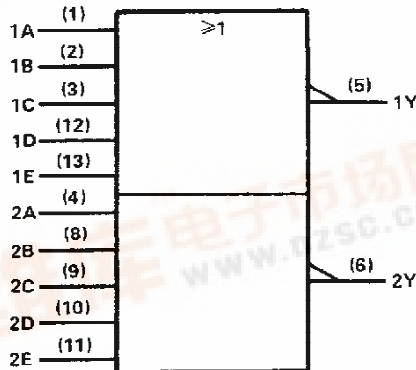
SN54S260 . . . J OR W PACKAGE
SN74S260 . . . D OR N PACKAGE
(TOP VIEW)

1A	1	14 V_CC
1B	2	13 1E
1C	3	12 1D
2A	4	11 2E
1Y	5	10 2D
2Y	6	9 2C
GND	7	8 2B

SN54S260 . . . FK PACKAGE
(TOP VIEW)

Pins across top: 1B(3) 1A(2) NC(1) VCC(20) 1E(19)

1C	4	18 1D
NC	5	17 NC
2A	6	16 2E
NC	7	15 NC
1Y	8	14 2D

Pins across bottom: 2Y(9) GND(10) NC(11) 2B(12) 2C(13)

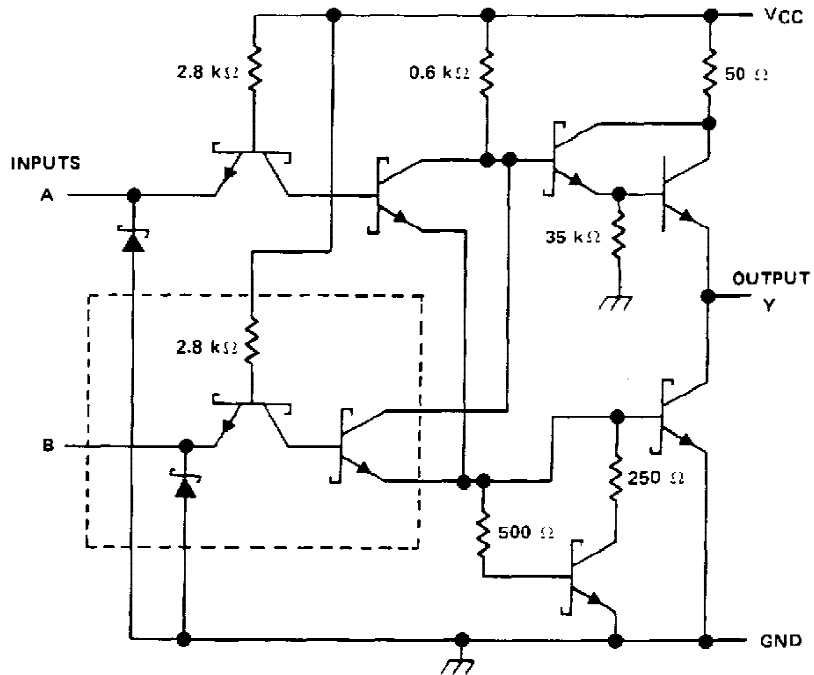NC - No internal connection

logic diagram (each gate)

logic symbol†

†This symbol is in accordance with ANSI/IEEE Std. 91-1984 and IEC Publication 617-12.
Pin numbers shown are for D, J, N, and W packages.

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INSTRUMENTS

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schematic (each gate)

Resistor values shown are nominal.
The portion of the schematic within the dashed-line is repeated for each additional input.

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

Supply voltage, V_{CC} (see Note 1) . . . . 7 V
Input voltage . . . . 5.5 V
Operating free-air temperature range: SN54' . . . . −55°C to 125°C
                                    SN74' . . . . 0°C to 70°C
Storage temperature range . . . . −65°C to 150°C

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

recommended operating conditions

		SN54S260			SN74S260			UNIT
		MIN	TYP	MAX	MIN	TYP	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 †			SN54S260			SN74S260			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_{IL} = 0.8 V,	I_{OH} = −1 mA	2.5	3.4		2.7	3.4		V
V_{OL}	V_{CC} = MIN,	V_{IH} = 2 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_{IH} = 2.7 V				50			50	μA
I_{IL}	V_{CC} = MAX,	V_{IL} = 0.5 V				−2			−2	mA
I_{OS}§	V_{CC} = MAX			−40		−100	−40		−100	mA
I_{CCH}	V_{CC} = MAX,	V_I = 0 V			17	29		17	29	mA
I_{CCL}	V_{CC} = MAX,	See Note 2			26	45		26	45	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 4.5 V, all others at GND.

switching characteristics, V_{CC} = 5 V, T_A = 25°C (see note 3)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS		MIN	TYP	MAX	UNIT
t_{PLH}	Any	Y	R_L = 280 Ω,	C_L = 15 pF		4	5.5	ns
t_{PHL}						4	6	ns

NOTE 3: See General Information Section for load circuits and voltage waveforms.

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